

## **APPENDIX C**

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### **COMMENTS ON THE NOTICE OF PREPARATION AND INITIAL STUDY AND RESPONSES TO COMMENTS**

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**COMMENTS ON THE NOTICE OF PREPARATION AND INITIAL  
STUDY**

# Kessler & Associates, Inc.

July 12, 1999

Mr. Jim Nyarady  
Manger, Strategy Evaluation Section  
Stationary Source Division  
California Air Resources Board  
2020 L Street  
PO Box 2815  
Sacramento, California 95812

Dear Mr. Nyarady,

SUBJECT: COMMENTS ON NOTICE OF PREPARATION FOR CARB SUGGESTED  
CONTROL MEASURE FOR ARCHITECTURAL COATINGS

Kessler & Associates, Inc., a government affairs firm, represents the Dunn-Edwards Corporation (Dunn-Edwards) a Los Angeles, California-based manufacturer and seller of quality architectural coatings. This letter is in response to California Air Resources Board's (CARB's) Notice of Preparation (NOP) prepared for the proposed Suggested Control Measure (SCM) for Architectural Coatings.

Thank you for allowing us the opportunity to comment on the potential impacts of this proposed control measure.

## INTRODUCTION

1-1

Regulation of paint impacts the environment in various ways, depending on the nature of the regulation. For example, reducing VOCs under certain conditions may actually contribute to ozone nonattainment because of the concept of negative reactivity.<sup>1</sup> CARB is currently examining promulgating a SCM for paint – a measure intended to have a positive impact on ozone non-attainment in California. The true impact on the environment of regulating the VOCs is currently the subject of debate and varied opinions. CARB's ultimate decision may very well dictate whether regulating VOCs will have a beneficial or detrimental impact on preventing ozone non-attainment in California.

1-2

To answer questions (not only on the state level, but the federal as well) regarding reactivity, Congress funded the construction of an air chamber to be built at the University of California at Riverside. Congress mandated that this chamber be utilized for the specific purpose of determining if and when the reduction of VOCs in paint is warranted. While Dunn-Edwards understands that drafting this SCM is currently

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<sup>1</sup> During 1998, representatives, officers and owners of the Dunn-Edwards Corporation communicated with CARB on issues relating to reactivity. Comments made by Dunn-Edwards during those meetings are incorporated by reference into this document.

1-2     underway, we believe that any VOC reduction should be postponed until the results of the chamber tests are known. This is warranted scientifically as well as from a policy position. With the "answer on the way," there is no need to have any potentially negative environmental (or economic) impact due to haste. If CARB determines that other reasons dictate the issuance of its SCM, Dunn-Edwards recommends that CARB incorporate the chamber's findings once they are published.

1-3     An SCM/state-wide approach might be counter-productive and/or inefficient because of: (a) differences in reactivity among areas, (b) differences in air quality problems among areas (i.e. stringent rules may not be required in same areas), (c) differences in uses/needs/exposure for architectural coatings, (d) different meteorological conditions, and, (e) the necessity to have stringent and extreme cost-ineffective rules.

#### SPECIFIC COMMENTS

##### INTRODUCTION

1-4     Page 1-1 states, "the proposed project is essentially a model rule intended to reduce volatile organic compound emissions from architectural coatings." This SCM does not recommend regulating VOC emissions, but rather regulating the VOC content of architectural coatings. All VOCs may not contribute equally, if at all, to ozone formation. The SCM needs to focus on VOC emissions. If reliance on test method 24 is the basis for VOC content, then Dunn-Edwards recommends changing/modifying this test method to more accurately reflect VOC emissions from the application of paint.

1-5     Various parts of this section deal with the SCM as well as the NOP being utilized as a model for individual air districts. Dunn-Edwards is concerned that such an approach does not adequately address the significant environmental/ecological/meteorological variations found within the state. Due to these variations, individual districts must alter CARB's EIR to such a degree that, in reality, air district resources may not, in the long run, be saved. Each district will still have to comply with CEQA to a level that reliance on the NOP/Program EIR may not provide any true assistance.

1-6     Page 1-2 to 1-3 state that CEQA "guidelines allow a lead agency to prepare a Program EIR for a series of actions that can be characterized as one large project and are related: (1) geographically, (2) as logical parts in a chain of contemplated actions, or (3) in connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program." (Emphasis added.) The first part of this statement - that this Program EIR is one large project is, we believe, inaccurate. Throughout the NOP, CARB states that individual districts will have to decide the environmental impact of the rule. In addition, by its very nature, this SCM may or may not be adopted by specific districts. Furthermore, what rule each district adopts may differ significantly from the SCM. As such, this project is not one large project, but



1-6 [ rather a series of smaller ones each of which is within each district's jurisdiction to decide to use or not.

1-7 [ In addition, Dunn-Edwards believes that the SCM is not related geographically because, in addition to the statements above about each districts discretion, the state is made up of different airsheds, each with its own "needs" regarding reactivity as well as VOCs from paint emissions volume. Neither Section (2) nor Section (3) apply because this is not part of a chain of actions (again, the discretion of each district), nor is it a continuing program (CARB does not have direct authority to regulate VOCs from paint).

As such, Dunn-Edwards believes that a Program EIR may not be appropriate in this matter.

#### PROJECT DESCRIPTION

1-8 [ This section makes statements concerning uniformity. Dunn-Edwards is concerned that the regulations based on specific reactivity needs of the different airshed not be sacrificed to rules based on the policy decision that uniformity is required.

#### ALTERNATIVES

1-9 [ We strongly encourage the inclusion and consideration of the alternatives listed on page 1-9, particularly: performance-based standards, reactivity, product line averaging (based upon the VOC categories and levels mandated by South Coast Air Quality Management District, or examining the specific VOC categories and numbers found the federal architectural coating rule), and a seasonal approach. In addition, we urge CARB to consider an alternative based on the availability of specific VOCs emitted from paint to become available and part of an ozone nonattainment chemical reaction.

1-10 [ It is important that CARB understand that these alternatives, and specifically averaging, are necessary parts of a paint rule. Averaging must be required when lowering VOC content to allow consumers the ability to choose a durable high-quality coating that meets their needs without, based on CARB's current thinking, sacrificing air quality. Such alternatives allow manufacturers the flexibility to produce high-quality coatings that maintain desired performance characteristics.

1-11 [ We also urge CARB staff to consider including a provision wherein local districts perform a Technology Assessments similar to that found in South Coast Air Quality Management District's recently adopted changes to Rule 1113, to ensure that high quality durable coatings are available in the future.

## REACTIVITY

1-12

The Draft EIR should evaluate the possibility that limiting solvent content in coating formulations may actually increase ground-level ozone formation (page 2-8). A reactivity-based regulatory scheme will provide CARB with the means to reach and maintain the ozone standard in a manner that is more cost-effective and equitable in its impact on the regulated community. A reactivity-based approach is consistent with the mandates of the Clean Air Act (Sections 183(e)) with its specific reactivity mandate

1-13

If the environmental assessment is to have a beneficial impact, it must consider reactivity. Otherwise, the rule may be detrimental to air quality. VOCs in paints need to be examined from a negative vs. positive reactivity posture. As part of the Reactivity Research Working Group and NARSTO, Dunn-Edwards has developed/obtained data that supports a reactivity-based VOC rule. Dunn-Edwards looks forward to sharing this technical data with CARB.

## REGIONAL DEREGULATION

1-14

CARB should not start with the assumption of statewide regulation. Instead, regulations should be tailored to regional differences to optimize environmental benefits and minimize costs.

## AIR QUALITY

1-15

Limiting VOC content may or may not reduce ozone. Whether limiting VOC content of architectural coatings actually reduces emissions, and whether reducing emissions actually reduces ozone formation, should be discussed in the air quality analysis to be contained in the EIR.

During the Rule 1113 rulemaking, SCAQMD District staff indicated that current Urban Airshed Models could not demonstrate measurable results from a source as small as CARB's estimate for the entire coatings category. Therefore, implementation of the SCM may not result in a measurable reduction in ozone formation.

1-16

The air quality analysis contained in this Program EIR should also consider the levels of ozone non-attainment in the 35 different California air districts. As indicated in Figure 1-2, the number of days the state ozone standard was exceeded as well as the peak ozone varies greatly by air district. This may be the result of numerous factors including differing meteorological conditions, types of industrial processes, reactivity of various VOC emissions, and ratio of VOCs:NOx in those areas. Such factors should be considered in determining whether or not a local architectural coatings rule based on SCM regulation results in measurable air quality benefits.

July 21, 1999

1-17

The initial study incorrectly states that there is no possibility that there will be a significant (negative) impact on air quality problems for criteria pollutants. This is inconsistent with CARB's decision to consider the "Seven Deadly Sins," set out on pp. 2-7 to 2-8.

Dunn-Edwards appreciates CARB's efforts in examining innovative and meaningful approaches to dealing with ozone nonattainment. We look forward to working with you on this and other important technological issues. These issues are the keys to the viability of our industry and our mutual goal of clean air.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Howard Berman". The signature is fluid and cursive, with a large initial "H" and a stylized "B".

Howard Berman  
Senior Vice President and  
Environmental Counsel



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Environmental, Health & Regulatory Services  
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**FEDERAL EXPRESS NO. 809764184792**  
**EARLY MORNING DELIVERY**

July 21, 1999

Mr. Jim Nyarady  
Manager, Strategy Evaluation Section  
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Sacramento, CA 95812

Dear Mr. Nyarady,

The Sherwin-Williams Company is pleased to have this opportunity to comment on the Notice of Preparation (NOP) of a Draft Program Environmental Impact Report (EIR) and on the Initial Study for the Draft Program Environmental Impact Report (EIR) for the Suggested Control Measure for Architectural Coatings. The Sherwin-Williams Company is one of the largest coating manufacturers in the world, with 1998 annual sales close to five billion dollars. We maintain manufacturing facilities throughout the country, including several within the State of California. We maintain company-owned and operated Stores throughout the country. These are the exclusive distributors / retailers for the Sherwin-Williams brand. In addition to this distribution, our products, under a variety of additional brand names, are distributed through mass merchandisers, do-it-yourself outlets, hardware stores, and by independent distributors. Our product lines include some of the best known brands, including – but not limited to – Minwax®, Thompsons®, Pratt & Lambert®, Martin-Senour®, Dutch Boy®, Rust Tough®, Cuprinol®, Ralph Lauren®, and H&C®. In the architectural and industrial maintenance product areas these coatings are used for their decorative and protective properties.

2-1

We believe that it is premature to develop the NOP, the Draft Program EIR, and the Final EIR before the SCM rule is finalized, or – at least – closer to finalization. This is especially important since the expectation is for the EIR to be used by Districts wanting to adopt the final SCM. With that as the primary goal of the EIR, it is important that it be focused to include the specific provisions of the SCM. Thus, we suggest that the Draft Program EIR development be postponed until after the SCM rule is closer to completion, rather than at the beginning of the process.

2-2

We also want to stress that it is important for the parameters included in the Draft Program EIR and the EIR to include all possible regulatory options that may be included in the final rule. If the final proposal or the rule as adopted includes modified VOC content limits from those limits currently under consideration or additional categories, then the Draft Program EIR must include a thorough evaluation of these effects and the impacts of these limits. There have been Environmental Assessments produced by Districts which consider only broad options, e.g. considering to adopt or not to adopt the proposed rule. However, we consider such broad options as these to be inadequate to fully address the Environmental Impacts of the specific rule provisions to be adopted. By considering the impact of various specific limits, the State will be able to decide on the best option, i.e. the most environmentally beneficial and least harmful specific option. Thus, we strongly support including specific variations on

2-2 the "VOC Content Limits and the Final Compliance Deadlines" as one of the alternatives to be included in the Draft Program EIR.

We also support including the following Alternatives, which were provided in the NOP and Initial Study as "under consideration."

- 2-3
1. A Low Vapor Pressure Exemption – since this exemption exists in the Consumer Products regulation and has been used for solvent-types of materials in these products, it is fair to include it in the SCM and in the EIR.
  2. VOC Content Limits / Final Compliance Deadlines – since it is hoped that the final compliance dates and the VOC content limits will be modified from this initial draft, we believe it is crucial that such modifications be included in the EIR. This should include consideration of VOC limit changes in increments of 50 grams per liter. In addition, consideration should include altering the units for the VOC limits from the current units of grams of VOC per liter of coating less water and exempt compounds to units of grams of VOC per liter of material.
  3. Regional Deregulation – This appears to be another plan which might have potential, if adequate information on the specific geographic locations could be included (for example, describing both the regulated and de-regulated areas by city, zip code, and FIPS code).

A number of alternatives are apparently under consideration about which we have strong reservations.

- 2-4
1. Performance-based Standards – Apparently the State is considering developing emission standards on the basis of VOC emissions per area covered per year, rather than on the VOC content of coatings. Such a plan would appear to be unenforceable, since it could not be based on actual area / emissions per year. It might be based on manufacturer recommendations. However, how would a manufacturer's recommendations for different substrates and substrate conditions be handled? How could such recommendations be compared to "reality?" (There do not appear to be any measurement tools for such units for emissions.) The obstacles to such a plan seem overwhelming – especially in the time frame under consideration.

- 2-5
2. Reactivity – while the concept of voluntarily adjusting the reactivity to achieve equivalence seems promising, reactivity data on the VOC's found in Architectural Coatings has not been developed. In addition, there does not seem to be a practical mechanism for the use of a voluntary reactivity plan in just a few districts – and yet, with District regulations, that would be needed. In other words, it is impractical to suggest that a manufacturer create another unique formulation for some parts of the State. Currently, the Sherwin-Williams Company has three separate formulations for a number of product lines. For example in the nonflat area, we have three separate sets formulations: the national formulations, the 380 g/l formulations for the regulated areas in New York, New Jersey, Kentucky, Oregon, Washington, and Massachusetts, and the 250 g/l formulation for the regulated areas in California and Maricopa County, Arizona. To add to this a variety of reactivity adjusted formulations for some, but not all, of the regulated areas of California, as well as to reduce the VOC content of the products, will

2-5 | be a challenge and may not prove to be practical. It would appear to be more practical if such a plan was developed for statewide usage.

2-6 | 3. Product Line Averaging – For many reasons, we do not consider Product Line Averaging to be practical. One reason is the issue of individual District requirements and tracking of individual products into multiple numbers of such small areas. (Some Districts are not even the size of an entire County, but are only part of a County.) In addition, many customers operate their own warehouses: we ship to their warehouse, they ship to final points of sale. Such warehouses may be in the State and serve several States and they may be outside of the State and serve this State, as well as other states. If we had to depend on information from each such customer to determine our compliance and averaging status, such a plan would not be practical. Not only would District-specific implementation require manufacturers to tailor and track distributions into each specific District, but it might also require us to have our Distributors do likewise.

2-7 | 4. Seasonal Approach – This would appear to require manufacturers and retailers to stock and unstock / restock and re-unstock products throughout the year: Jan – March would have higher VOC coatings; these would need to be removed and replaced with lower VOC coatings for April – October; and these would be removed and replaced with the higher VOC coatings for October – March. Such stocking / unstocking / re-stocking is extremely expensive for retailers, distributors, and manufacturers and is ultimately impractical.

2-8 | However, if these concepts are under consideration for inclusion in the SCM, then the EIR will need to consider the effects of each of these.

There are several additional divisions / categorizations which we believe may allow some category VOC's to be lowered, while maintaining product quality. These divisions are shown below:

2-9 | 1. Division of the stain category into the following subcategories with different VOC limits:  
a. Interior semi-transparent stains  
b. Exterior semi-transparent stains  
c. Interior and exterior opaque (solid color) stains

2-10 | 2. Division of the industrial maintenance category into subcategories based on performance requirements / markets – examples (not complete nor all inclusive) would include the following:  
a. Immersion service – petrochemicals, chemicals, water, wastewater  
b. Bridges  
c. Zinc Rich Coatings

2-11 | 3. Division of the primer, sealer, and undercoater categories into the following:  
a. Interior primers and undercoaters  
b. Exterior primers and undercoaters  
c. Interior sealers  
d. Exterior sealers

2-12 | 4. Division of the nonflat category into the following:

- 2-12 [
  - a. Floor coatings – single component residential versus multi-component industrial maintenance
  - b. Rust preventative coatings (for residential structures)
  - c. Interior high gloss nonflats
  - d. Exterior high gloss nonflats
  - e. Interior nonflats (not high gloss)
  - f. Exterior nonflats (not high gloss)
- 2-13 [
  - 4. Division of the flat category into the following:
    - a. Interior flat coatings
    - b. Exterior flat coatings

Consideration of these possibilities should be included in the EIR since it is likely that some or all of them could be included in the final SCM to allow maximum VOC reductions with minimum environmental harm and expense.

In addition to the discussion included in the Initial Study for the Draft Program Environmental Impact Report for the Suggested Control Measure for Architectural Coatings, the following Environmental Factors are potentially affected:

- 2-14 [
  - 1. Water – the proposal depends on extensive use of waterborne coatings by paint manufacturers. Paint manufacturing operations located within the State will be using more water than currently in paint production. Such increased use of water has the potential to deplete groundwater supplies and lower the local groundwater table level. In addition, since the use of waterborne coatings require much more careful surface preparation, power washing of structures prior to coating applications will become more frequent. This will place an additional burden on the water resources of the State. Thus, the potential depletion of groundwater supplies and the groundwater table level should be considered.
- 2-15 [
  - In addition, the increased use of waterborne coatings may generate increased amounts of wastewater from coating applications. This increase in wastewater may require new or expansion of current water facilities and / or wastewater treatment facilities which may have environmental effects. These need to be considered.
- 2-16 [
  - 2. Transportation / Circulation – The seasonal deregulation option will result in a significant increase in the number of deliveries to each retail outlet (this will be doubled) and the number of trucks arriving to pick up “out of season” merchandise (from zero currently to twice a year). In addition, these trucks will need to deliver the returned coatings to warehouses (a trip which does not currently occur.) Such increased deliveries will have multiple serious impacts: it may result in inadequate emergency access to the transportation networks; it can also result in inadequate parking. In addition, such an option and such increased traffic can cause severe environmental harm by increasing emissions from these trucks. (The current regulatory plan can be represented as having “one truck to store encounter” per year; under a seasonal regulatory plan this would be increased to “four truck to store encounters” per year (one to remove high VOC, two to deliver low VOC, three to remove low VOC, and four to deliver high VOC.) Such a four-fold increase in truck traffic needs to be considered.
- 2-17 [
  - 3. Energy and Mineral Resources – As discussed above the seasonal deregulation option will result in a significant increase in the number of truck “visits” to each retail outlet per year. These extra trips use extra gasoline, that would not have been consumed otherwise.

2-18

In addition, if a category labeling requirement is adopted, labels or data pages will become obsolete faster. This will necessitate production of additional new labels, at a significant cost to environment. This cost will be without a corresponding environmental benefit, since including the category on the label (or on a data sheet) does not reduce emissions, nor does it make it more likely or less likely that the category is correct for the District rules. With seventeen Districts within the State currently regulating architectural coatings and with nine additional areas regulating these coatings, there is a high potential for amendments. These amendments would result in revision of the data pages or labels. With 26 areas involved, it is probable that such amendments and revisions could occur multiple times each year. All of the natural resources and energy expended in the production of and printing on paper would be without environmental benefit, since such a labeling requirement does not provide emission reductions.

2-19

4. Hazards – In section IX (b) the handling of hazardous materials within ¼ mile of a school may have a Potentially Significant Impact. The possible use of acetone (which is hazardous based on its high flammability) and the use of glycol ethers (potentially in waterborne coatings) and diisocyanates (in polyurethane coatings) in the neighborhood of a school, as well as in school structures themselves should not be ignored.

2-20

It is important to consider that currently the most prevalent solvent used in solventborne architectural coatings is mineral spirits, and that mineral spirits are neither carcinogenic nor teratogenic. Additionally, ethylene glycol ethers and ethylene glycol ether acetates are commonly used in waterborne architectural coatings. Since the proposed VOC limits will essentially eliminate the use of mineral spirits and will increase dramatically the percentage of the market based on waterborne technologies, it is logical to assume that more ethylene glycol ethers and ethylene glycol ether acetates will be used than are currently in use. It is important for the potential health effects of this switch in solvents be considered in the EIR.

2-21

In addition, the discussion of hazards did not include a discussion of the increased use of sand blasting to prepare surfaces for coating with waterborne systems. Such sand blasting can cause exposures to crystalline silica, a Proposition 65 carcinogen. Again, this can happen at a school, as well as within ¼ mile, and is more likely under the current proposal, since it essentially eliminates solventborne primers and will thus necessitate more thorough substrate preparation. Waterborne coatings require more thorough surface preparation, compared to solventborne coatings. Abrasive blasting will be needed more often to prepare these architectural surfaces than is currently the situation. These operations generate hazards associated with some of the abrasion elements, as well as noise (see below). In addition, since architectural coatings used in residential settings will require such abrasive blasting more often than currently, and since such settings may expose young children to such hazards, these impacts need to be considered. The lack of solventborne primers is especially critical in this discussion, since currently they can serve as a preparatory step prior to the application of a waterborne topcoat.

2-22

5. Noise – The Initial Study for the Draft Program EIR discussed the idea that with the adoption of reduced VOC content limits, more coatings would be waterborne. However, the discussion failed to consider that waterborne coatings require more thorough surface preparation, compared to solventborne coatings. More often power washing and abrasive blasting will be needed to prepare these architectural surfaces. These operations generate noise, as well as hazards associated with some of the abrasion elements (see above). Evaluation should consider that waterborne coatings are less forgiving than solventborne coatings, and thus require more extensive surface preparations, including abrasive blasting. In addition, since architectural coatings used in residential settings will require such abrasive



2-22 [ blasting more often than currently, and since such settings will expose young children to such noises, these impacts need to be considered. The lack of solventborne primers is especially important in this respect. We expect either a substantial temporary, periodic, or permanent increase in ambient noise levels above the levels currently existing may occur and should be evaluated (response to X c) and d) should be Potentially Significant Impact.)

2-23 [ 6. Public Services – We believe there are some additional Potentially Significant Impacts that need to be considered. The proposal removes single component solventborne coatings from all effected categories. This will increase the use of waterborne coatings, and reduce the painting season to the warmer and drier months. Thus, public facilities – and especially parks – may not be available for use as often as they are currently. In addition, if the extreme reductions in VOC's result in more frequent applications of coatings, then all facilities – including public services – may be severely impacted and unavailable for periods of time when they otherwise would have been available.

2-24 [ 7. Solid / hazardous waste – The discussion should include the potential for increased sand blasting and the wastes associated with this operation. In addition, the proposed limits for industrial maintenance coatings will result in increased usage of multi-component systems, where single component systems are currently used. These multi-component systems have a limited pot life (i.e. the time period allowed from mixing the components to application); once the pot life is exceeded the material is waste. Thus, the increased use of multi-component systems can result in increased non-waterborne solid and hazardous wastes.

2-25 [ 8. Aesthetics and Cultural Resources – The proposal may jeopardize the maintenance of historic buildings. The unavailability of traditional coating technologies to maintain these structures will – at a minimum – make maintenance of these buildings more difficult; in the worst case scenario it may not be possible to find acceptable substitute products to maintain both the historical integrity and the physical integrity of these structures. This is especially problematic with the elimination of solventborne primers, as well as for the second tier reductions with flat and nonflat coatings at 50 g/l.

We hope our comments on the Notice of Preparation (NOP) of a Draft Program Environmental Impact Report (EIR) and on the Initial Study for the Draft Program Environmental Impact Report (EIR) for the Suggested Control Measure for Architectural Coatings are helpful.

If additional information is needed, please feel free to contact me by telephone at (216) 566-2630, by facsimile at (216) 263-8635, or by electronic mail at [mkharding@sherwin.com](mailto:mkharding@sherwin.com).

Sincerely,



Madelyn K. Harding Administrator,  
Product Compliance & Registrations

July 22, 1999

Mr. Jim Nyarady,  
Manager,  
Strategy Evaluation Section,  
Stationary Source Division,  
California Air Resources Board  
2020 L Street  
Sacramento, California 95812

Dear Jim:

Thank you for affording the National Paint and Coatings Association (NPCA) the opportunity to comment on the Initial Study for the Draft Program Environmental Impact Report for a Suggested Control Measure (SCM) for Architectural Coatings, dated June 1999.

As was stated in the June 1999 document, the Initial Study is intended to provide information about the proposed project in order to allow comment on the scope of the environmental analysis and possible project alternatives of the Draft Program Environmental Impact Report (EIR). We understand from this that there will be an additional opportunity to comment on the Draft Program EIR itself when it is issued.

We have been actively involved with your agency's recent efforts and those of the South Coast Air Quality Management District (SCAQMD) to establish lower VOC limits for AIM coatings. In this connection we have attended workshops held by CARB on this matter and have submitted initial comments on the SCM. Also in connection with the SCAQMD's recent revisions to Rule 1113, we provided comments to that agency's Initial Study for the draft Subsequent Environmental Assessment (SEA), in particular the scope of the environmental analysis and possible project alternatives. Because the VOC limits proposed in the SCM are similar to the revised limits of Rule 1113 and because the SCM relies heavily on the conclusions of the SCAQMD concerning the Rule 1113 revisions, we have attached a copy of our comments on the SCAQMD's SEA. (See APPENDIX A.)

Our comments on CARB's EIA follow.

#### **SUGGESTED ALTERNATIVE EFFECTIVE DATES**

Crucially affecting the environmental impact of the SCM will be the effective dates of the revised VOC limits.

3-1

We question whether it is necessary for the SCM to specify compliance dates at all, in as much as the SCM is only a suggested measure for consideration by the local air districts which must in turn adopt it through formal rulemaking before it could be effective. This is particularly true in light of the technology forcing nature of the proposed limits. As we commented concerning the limits as they were being considered by the SCAQMD, many are not within the reasonably foreseeable technology of the industry. A more reasonable approach may be to specify time frames when it is believed (hoped) that technology may be available to meet lower VOC limits.

In this regard we note that the June 1999 Notice of Preparation states the following:

The primary objective of the proposed SCM is to set VOC limits and other requirements that are feasible (**based on existing and currently developing coatings technology**) and that will achieve significant reductions in VOC emissions from architectural coatings. (page 1-7)

3-2

As you know from our discussions with CARB and the SCAQMD, we have serious reservations about the ability of the industry to develop effective coatings at the VOC limits specified in the SCM, based on "existing and currently developing coatings technology". (See Appendix A.)

Also to the extent that technology might be developed, the longer time period that is afforded, the more improved are the opportunities for technology developments.

3-3

With this in mind, we suggest that the EIR evaluate the implementation of a first round of reductions for 2004. A second round of reductions should not be considered until there has been some experience with the first round of reductions. Instead of a second round of reductions being specified in the SCM, an Increments of Progress Program should be established for a second round of reductions effort, under which industry would supply information concerning the feasibility of additional reductions in VOC emissions from AIM coatings.

#### SUGGESTED ALTERNATIVE SCM PROVISIONS

3-4

In our June 7, 1999 comments concerning the SCM, we made several suggestions for changes to its provisions. These are attached in Appendix B and we incorporate them by reference. The EIR should evaluate the impact of making these changes. We believe that the over all efficacy of the rule would be

- 3-4 [ improved by the adoption of our suggestions. Additionally, there are several other specific comments from our members that we draw your attention to and endorse for your consideration.

### **PROJECTED EMISSIONS REDUCTIONS**

- 3-5 [ The projected emissions reductions should be evaluated in the EIR on the basis of the assumption that many of the projected VOC limits will not be technologically feasible. The impact of no effective coatings being available for many of the current applications should be considered as a distinct possibility and should be assessed for its impact upon projected emissions reductions.

### **THE LISTED ALTERNATIVES**

- 3-6 [ We concur in the consideration of the alternatives listed at page 1-9. We note here that the last listed alternative that is raised for consideration includes the possibility of different VOC content limits and compliance dates than those specified in the SCM, a point we have suggested.

### **THE ENVIRONMENTAL CHECKLIST**

- 3-7 [ We agree with the determination that the proposed project may have a significant effect on the environment and an environmental impact report is required.

- 3-8 [ With respect to the delegation of cost considerations to the Economic Impact Analysis, we believe that there would be significant costs associated with proposed limits and that they must be addressed. We concur in the delegation of their consideration to the Economic Impact Analysis.

- 3-9 [ With respect to the water environmental impacts, we believe that there may be substantial negative effects if lower VOC coatings are required for the water and sewage system infrastructures. The same would be true for tank lining and piping of infrastructure that contains or holds hazardous materials, the release of which could contaminate water supplies.

- 3-10 [ With respect to aesthetic considerations, we believe that the elimination of existing effective anti-graffiti coatings should be considered as an impact.

- 3-11 [ With respect to recreation considerations, the possibility of lower VOC coatings not adequately meeting the needs of the infrastructure at such facilities should be considered.

3-12

With respect to solid waste/hazardous waste issues, there is the possibility that there would be increased use of higher solids two pack systems, and that this could affect hazardous waste considerations.

## APPENDIX A

December 1, 1998

Mr. Darren W. Stroud  
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Diamond Bar, CA 91765-4182

**RE: Comments on the Initial Study for the Draft Subsequent  
Environmental Assessment for Proposed Amended Rule (PAR) 1113 -  
Architectural and Industrial Maintenance (AIM) Coatings**

The NPCA is providing comments on the South Coast Air Quality Management District's Initial Study for the draft Subsequent Environmental Assessment (SEA), in particular the scope of the environmental analysis and possible project alternatives. In addition we are submitting our initial comments on a number of other pertinent issues that are involved in this rulemaking. Further detailed comments on the proposed revisions to Rule 1113 (definitions, limits and compliance dates, etc.) will be provided during the remainder of the rulemaking process.

### **General Comments on Proposed Amended Rule (PAR) 1113**

3-13

The District is unnecessarily moving ahead on a fast track rulemaking schedule before all of the pertinent data is available to the District which is essential to making an informed decision concerning the technological and economic feasibility of the proposed revised VOC limits under Rule 1113.

This pertinent data includes the National Technical System (NTS) comparative study and the CARB AIM emissions inventory. The District's fast track rulemaking schedule precludes sufficient time for an open and thorough

examination and discussion of the results of these two extremely important studies.

We have four major recommendations for the District:

- 3-14 [
  - Postpone the currently scheduled February 12, 1999 presentation on the PAR 1113 to the SCAQMD Board until both the NTS comparative study and the CARB inventory are completed and the regulated community, which includes chemists with extensive knowledge of the paint technology issues involved in this matter, has an opportunity to review and discuss the findings of the studies with District staff.
- 3-15 [
  - The NTS should be expanded to include ongoing real world weathering and durability testing that manufacturers and applicators can monitor in the future.
- 16 [
  - The District relies for much of its proposed lower VOC coatings limits on currently available low VOC coatings technology. A low VOC product technology may be successfully used currently to meet the performance requirements of one particular application and exposure environment of a general class of coatings. However, there must first be a thorough evaluation of this technology before it can be mandated as being feasible for all or even most of the application, performance, and exposure requirements of the general class of coatings to which it belongs. For example, an expectation that currently available low VOC non-flat coatings could effectively replace **all** other non-flat coatings currently in the market place is completely at odds with the history of advances in coatings technology. Reliance on such an expectation to guide the District's inquiry would be dangerously misguided. There is no substitute for a thorough, open minded, and objective evaluation of existing and reasonably foreseeable coatings technologies in setting future VOC limits.
- 3-17 [
  - The SCAQMD AIM rule should adopt the national AIM rule as a template, incorporating the national rule's product definitions, reporting and labeling requirements, as well as the national rule's "less than or equal to" one liter package size exemption. It must be acknowledged that the SCAQMD will specify much lower VOC limits for coatings than those of the national rule. This may necessitate the greater division of separate coatings categories in the SCAQMD AIM rule than those that exist in the national rule. But the basic components of both rules should be as uniform as possible to reduce the inefficiencies associated with having to address the special VOC reduction needs of the SCAQMD.

## **Alternatives**

3-18

The Initial Study lists seven possible alternatives that are currently under consideration for inclusion in the Draft SEA. Below are our initial comments on each of these possible alternatives along with some suggestions for additional alternatives that merit discussion.

#### Low Vapor Pressure Exemption

- 3-19 The effect of establishing a low vapor pressure exemption may only have limited impact on the ability of the manufacturers to meet the currently proposed VOC limits. The impact would depend on where the exemption would be set and the solvents that would be thereby exempted. Further public discussion of this possible alternative is needed. This exemption should be addressed in the Draft SEA.

#### Performance-based Standards

- 3-20 Use of performance-based standards looks like a viable alternative approach but it is fraught with numerous problems and controversies particularly for the DIY (do-it-yourself) market products. For certain specialized categories of coatings, such as industrial maintenance (IM) coatings, it may be a viable alternative. Most IM products already are formulated and certified to meet a specific set of performance requirements established by a professional standard setting group such as ANSI/ NSF/ASTM. The draft SEA should discuss this alternative approach.

#### Reactivity

- 3-21 The use of reactivity in setting regulatory limits holds out the possibility of providing coatings manufacturers with additional flexibility in meeting the revised limits and may allow some current coatings technologies to continue to be marketed. Our support for using reactivity as a regulatory criterion will depend on how it is employed by the District. We would oppose its employment in a manner that would only add to regulatory burdens without any tangible benefits for the environment, e.g., requiring reformulations of coatings that already have been reformulated to reduce VOC content for some marginal additional improvement in reducing ozone on the basis of reactivity. In any case, we support the continued evaluation and research concerning the possible application of this alternative. The draft SEA should address this alternative.

#### Product Line Averaging

- 3-22 Again this alternative may offer the possibility of added flexibility for the manufacturer in meeting the revised VOC limits. The current administrative requirements of the averaging provision seem to be unnecessarily burdensome particularly for national or regional marketers of AIM products. It would be of interest to know how many companies have taken advantage of this alternative since it was incorporated into Rule 1116 in 1996. We are awaiting the further discussion of this alternative.



### Regional Deregulation

3-23

Of the several alternatives proposed by the District, this is the most difficult to currently evaluate in that it is contingent on an anticipated fundamental change in the District's VOC/NOx mix. In principle, however, we believe it is worth while to explore all avenues that offer the possibility of cost-effective measures to reduce ozone formation in the District.

### Seasonal Approach

3-24

The use of a seasonal approach to the regulation of AIM products appears attractive, allowing for the use of higher VOC products during periods when ozone does not form. However, the great majority of coatings manufacturers have very serious reservations about how such a program could be implemented as a practical matter.

### VOC Content Limits/Final Compliance Deadlines

3-25

It is the position of the NPCA that the VOC Limits and Compliance deadlines proposed in the attached Appendix A - Proposed Amended Rule (dated October 23, 1998) are arbitrary and are not technically and economically feasible on the basis of reasonably foreseeable coatings technology developments. The NPCA and individual member companies will provide more detailed comments on this matter during the future rule development process. But for the present it is important to note that we have carefully reviewed these limits with coatings technology experts in our member companies, several of which have staked out low VOC coatings as a major market and have for decades devoted millions of dollars to research and development of such coatings.

It is the consensus of our membership that all of the proposed revised VOC limits proposed in this rulemaking suffer from on or more of the following defects:

- There is no reasonably foreseeable technology that would achieve the limit.
- The limit might be completely appropriate for some applications in a coatings category but completely inappropriate for others.
- The limit might be achieved but at unacceptably high additional costs (e.g., limiting IM coatings to two-pack systems).

We again urge the District to hold off any further drafting of the proposed revisions to Rule 1113 until the results of the NTS comparative study and the CARB 1998 architectural emission inventory are available and have been discussed in a public forum.

## **Additional Regulatory Alternatives**

### Development of More Specific Categories

3-26 As the District moves to lower the VOC content limit of an AIM coatings category, the number of coatings that can exist under that category for particular requirements are diminished unless the lower VOC technology mandated by the new limit can accommodate such coatings. Unfortunately, this is not always feasible and this is particularly true at the very low VOC limits being proposed. As the District looks to lower the VOC content of AIM products, the District should work with coatings manufacturers and users to identify those specific applications that can not be technically or economically reformulated or replaced by a lower VOC product at the proposed limits.

The District has indicated that such a process is impractical. Aside from the District's obligation to thoroughly evaluate the technological and economic feasibility of its proposed limits, which would include determining which applications would be eliminated by its proposed limits and the impact of the elimination, we note that this process of further refining coatings categories already has been accomplished in the development of the national AIM rule. The national rule provides category definitions on which a discussion of the identification and expansion of the list of categories for Rule 1113 could begin. The expansion of the number of categories will allow the District to lower the VOC limits for those coatings applications where the lower limits can be effectively achieved while ensuring that the limits do not apply to coatings applications for which they would not be feasible.

### Alternative Methods for Determining VOC Content of Low VOC Products

3-27 As the VOC limits of AIM coatings are lowered the District needs to evaluate the use of alternative methods for determining VOC content. For very low VOC (less than 75 g/l) coatings, Method 24 (the less water method) can give false and erroneous VOC determinations. This situation is analogous to the situation with low solids coatings where the District and EPA have recognized the need for a modified test to determine VOC content. We believe that the Draft SEA should include a discussion of the test method for determining VOC content of low VOC products.

## Fees

- 3-28 The draft SEA should explore an option that would allow purchases of noncompliant coatings on payment of a fee, similar to the system that exists in the national AIM coatings rule.

## **Environmental Checklist**

We believe that the PAR 1113 could have significant effects on the environmental factors identified in Chapter 2 pages 2-3 to 2-14 of the Draft Environmental Assessment Initial Study. We also want to identify areas of concern in addition to those identified by the District that should also be addressed in the Draft SEA document.

## IX. Hazards

- 3-29 We do not agree with the District's finding that "...the project-specific human health impacts associated with the implementation of PAR1113 are considered insignificant...." As manufacturers are forced to supply lower and lower VOC products, the number of formulating options will be more limited and the focus will be on the use of higher and higher molecular weight polymers. As the molecular weight of the polymers increases so do the risks of increased safety and health impacts. Higher molecular weight polymers are by their nature more reactive and thus potentially present increased exposure hazards.

For example – with the move to a 50 g/l VOC limit for a non-flat coating in 2005, there will be increased pressures for the use of specialized coatings (e.g., two-pack systems) in high traffic commercial and the do-it-yourself (DIY) market. This could in turn increase the exposure of untrained applicators and DIY'ers to increased skin and inhalation hazards. The District should include an evaluation of these hazardous in the Draft SEA.

## XII. Utilities and Service Systems

### **c. Landfills.**

- 3-30 With the expected increase in the use of two-pack systems, particularly by untrained applicators, there no doubt will be an increase in the amount of unusable cured two-pack materials that have solidified before they could be applied. Thus a foreseeable impact on both solid and hazardous waste disposal handling facilities and landfills will be an increase in these waste streams.

We greatly appreciate the opportunity to comment on this initial draft and we look forward to further participation in the revision of the rule.

Sincerely,

Robert J. Nelson  
Director, Environmental Affairs

Jim Sell  
Senior Counsel

## APPENDIX B

### Initial Comments 6/7/99

#### **NPCA Recommended Changes to the ARB's 5/19/99 Draft Suggested Control Measure for Architectural Coatings**

3-31 [ 1. Effective Dates

The effective date for the first revision of the VOC limits should be no earlier than July 1, 2004. If shown to be technical feasible, the effective date for the second round of VOC emission reductions would be no earlier than July 1, 2008. We would be happy to discuss our reasoning for these recommended changes in effective dates.

3-32 [ 2. Proposed Limits

The proposed changes to the Table of Standards of VOC limits should be the focal point of discussions at the July 1, 1999 workshop. NPCA will reserve its comments on individual limits until the NOP is released. For the second round of VOC emission reductions, the reduction of individual category limits should be eliminated and replaced by a "Increments of Progress Program". A detailed description of such a program will be provided before the next workshop.

33 [ 3. Categories and Definitions

General Recommendations for the Revision of SCM

As we stated in our earlier comments to the ARB staff, the ARB should adopt the national rule as a template, incorporating all of the national rule product definitions, reporting and labeling requirements. Due to the unique conditions in the portions of California, we acknowledge that ARB may have to specify lower VOC limits for some categories of coatings than those in the

3-33

national rule. But the basic components of both rules should be as uniform as possible to reduce the inefficiencies associated with having to address the special VOC reduction needs of portions of California. The adoption of the national rule as a template, with its sixty-one categories and subcategories, would assist industry in more readily identifying categories where additional VOC reductions might be obtained. In part this is true because these coatings are sold in large volumes on a national basis and thus are the beneficiaries of focused research and development efforts to lower VOC content.

**Additional Categories and Subcategories:**

As a practical matter as the ARB considers the lowering of the current VOC limits for some of the largest and most important categories of AIM products (Industrial Maintenance, Flats, Non-flats, Primers, Sealers and Undercoaters, Stains and Waterproofing Sealers) the ARB must also consider the further subcategorizing of these national recognized categories and the inclusion of additional coatings categories for a number of special end use high performance AIM products that are currently covered by one of these board coatings categories. By doing this the ARB may be able to lower the VOC limit for a general category or subcategory of coatings within a broad category to take advantage of the availability and/or emerging technology while ensuring that the limits do not apply to coatings applications for which they would not be feasible and thus causing irreparable harm to manufacturers and coatings users of these special products.

3-34

- At a minimum following categories should be added to the Table of Standards (TOS):
  1. Tank Lining and Piping Coatings
  2. Specialty Primers
  3. Interior Semi-Transparent Stains

In addition, a separate category for "High Gloss Non-Flats should be considered.

- The SCM should also incorporate any additional changes in the definitions that are made to the SCAQMD Rule 1113 during the ninety day review period.
- The following definitions for all of these new categories should be included in the Definitions Section of the rule.

3-35

**TANK LINING AND PIPE COATINGS** means an industrial maintenance coating formulated and recommended for application to the interior surfaces of storage tanks and reservoirs and associated piping exposed to immersion in water, wastewater, organic solvents and chemical solutions (aqueous and non-aqueous solutions).

(This category would replace the chemical storage tank coating category that has been added to Rule 1113)

**INTERIOR-SEMI-TRANSPARENT STAIN** is a coating formulated for interior use that produces a dry film with minimal coloring that does not completely conceal substrate or its natural texture or grain pattern.

**SPECIALTY PRIMER** is a coating formulated and recommended for application to a substrate to block stains, odors, or efflorescence; to seal fire, smoke or water damage; or to condition excessively chalky surfaces.

An excessively chalky surface is one that is defined as having chalk rating of four or less as determined by ASTM D-4214 - Photographic Reference Standard No.1 or the Federation of Societies For Coatings Technology "Pictorial Standards for Coatings Defects".



PAINTING AND DECORATING CONTRACTORS OF AMERICA

*Voice of the Professional Painting and Decorating Contractor*



STEPHEN B. MURPHY  
PDCA EXECUTIVE COMMITTEE

RESPOND TO:  
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June 29, 1999

State of California  
Air Resources Board  
2020 L Street  
Sacramento, CA 95812

FAX & MAIL

Attention: James Nyarady

Reference: SCM For Architectural Coatings

Subject: Proposed Changes

Per our meeting this morning, PDCA is strongly opposed to CARB's proposed changes to the Suggested Control Measure (SCM) for Architectural Coatings. PDCA strongly recommends the following process to deal with any proposed changes to the SCM to avoid the errors that SCAQMD made in its May 14, 1999 approval of the proposed amendments to its Rule 1113:

1. Establish a joint agency/industry working group with consensus goals, procedures, and timeframe to develop recommended proposed changes.
2. Move the target completion date from year-end to June of next year to allow time for this process to work.
3. CARB should assume the leadership role in dealing with an ongoing issue that has national ramifications, now that SCAQMD has failed in its leadership.
4. CARB should re-establish trust in the regulatory process by working with industry in a more reasonable and credible manner than SCAQMD.

4-1

The recent initial steps taken by CARB in developing the proposed changes appear to mirror SCAQMD's approach. SCAQMD's approach ended on May 14, 1999 in a disaster resulting in litigation and the loss of industry's trust in working with a governmental agency. The same process proposed by CARB will provide the same results.

4-2

CARB right now has an opportunity to serve the people of California by establishing itself as a leading regulatory agency that can meet and resolve issues by developing a working relationship with industry to find the best ways of protecting our environment while meeting the needs of industry and consumers.

4-3

CARB  
SCM for Architectural Coatings

June 29, 1999  
Page 2

Please call me if you have any questions concerning PDCA's recommendation.

PDCA



Stephen B. Murphy  
President

SBM:nb

c: PDCA California Council  
PDCA Golden State Council  
NPCA  
SSPC  
EL RAP

**Subject:** CARB Comments (corrected copy)  
**Date:** Fri, 23 Jul 1999 16:52:39 -0400  
**From:** Monica Pierce <pierce@sspc.org>  
**To:** "Jim Nyarady" <jnyarady@cleanair.arb.ca.gov>  
**CC:** "Bernard Appleman" <appleman@sspc.org>

Mr. Nyarady,  
Bernie did make a few changes. Here is the final version.

-Monica

July 20, 1999

Air Resources Board  
2020 L St, P O Box 2815  
Sacramento, CA 95812  
Attention: Mr Jim Nyarady

**Subject:** SSPC Comments on ARB Suggested Control Measures for  
Architectural Coatings

SSPC is a not-for-profit technical organization representing facility owners (public and private), applicators, and suppliers of materials, equipment and services. SSPC has a history of cooperating with environmental health and safety regulatory organizations to minimize the impact of coatings operations on the health and welfare of the public and the work force.

SSPC's members use or supply coatings in the class defined as industrial maintenance.  
SSPC's comment are primarily directed at this category, although they may also be applicable to related categories such as rust preventive coatings.

SSPC's comments are as follows:

1. Industrial Maintenance Coatings: 2002 level of 250 g/l

The ARB has proposed the levels issued by SCAQMD. The latter have encountered considerable opposition from industry groups including SSPC.

The technology for coatings at 250 g/l is not proven for several types of exposure.

These include linings for tanks containing aggressive chemicals such as acids, bases, solvents and oxidizers. For potable water tank linings the technology is marginally available at 250 g/l but there is a steep learning curve for the specifiers and applicators, and three years is insufficient time for these to be implemented (e.g., requalification by

NSF standards, laboratory, and service testing). In addition, SSPC has contacted IM coating suppliers to determine the VOC level achievable for exterior aggressive

exposure (e.g., UV along with moisture, salt, chemical fumes, temperature extremes). Perhaps the most successful product for this application has been polyurethanes, which are not available with VOCs less than 300 to 320 g/l. This proposed SCM would essentially eliminate the current generation of polyurethanes. Any replacements would be based on

as yet unproven technology or on use on often cumbersome and expensive component

equipment. The imposition of this rule is expected to result in early failure and the need for



more frequent repainting.

2. Industrial Maintenance Coatings: 2006 level of 100 g/l

This level was also based on SCAQMD's rule making. This level is unachievable with today's technology. So ARB, like SCAQMD, is suggesting a rule based on speculation on advances in technology. This approach is not appropriate. In our view, it is not normally a major problem to formulate a coating with reduced or zero level of VOC. Any competent formulator can achieve this level. However performance and application properties are needed for industrial maintenance (as well as other) coatings. There is little if any substantiated performance data on coatings with VOC of 100 g/l or less except for a few specialized applications (e.g., floor coatings).

3. Metallic Filled Coatings

The ARB proposed definition of this category excludes zinc. This exclusion is very surprising in view of the fact that virtually all other regulatory bodies have included zinc. Zinc-rich coatings are the foundation of many IM coating systems. Zinc-rich coatings at 250 g/l have not been proven for field application (e.g., Caltrans has used waterborne inorganic zincs for 20 years but they are not specified for field applications). Waterborne inorganic zinc (which has close to zero VOC) is considered by the vast majority of applicators and specifiers to be unsuited for field application. The industry has experienced far too many failures with these products. We are not aware of any advances in equipment or materials handling or application properties of these coatings which would be needed to make these coatings suitable for field application.

SSPC appreciates the opportunity to submit these comments and would be willing to discuss in further detail any of the above comments.

Respectful submitted,

Bernard R. Appleman  
Executive Director, SSPC: The Society for Protective c"0

Monica Pierce  
Accounting/Administration Specialist  
SSPC: The Society for Protective Coatings  
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Visit us at www.sspc.org  
Join us at SSPC'99 in Houston, Texas Nov. 14-19!

**Subject: CARB comments**

**Date: Tue, 20 Jul 1999 17:01:22 -0400**

**From: Monica Pierce <pierce@sspc.org>**

**To: "Jim Nyarady" <jnyarady@cleanair.arb.ca.gov>**

**CC: "Bernard Appleman" <appleman@sspc.org>**

Before Bernard Appleman left this afternoon for Cleveland, he asked me to edit his comments and send them to you. There may be some technical inaccuracies due to my lack of knowledge/terminology and his (Bernie) absence to proof. He will return to the office on Friday 7/23. If you have any questions you may call me at ext 213 or Bernie at ext. 234. Please confirm receipt of this email.

Sincerely,

Monica Pierce  
Temporary Executive Secretary

July 20, 1999

Air Resources Board  
2020 L St, P O Box 2815  
Sacramento, CA 95812  
Attention. Mr Jim Nyarady

fax: 916-322-6088  
email: jnyarady@arb.ca.gov

**Subject: SSPC Comments on ARB Suggested Control Measures for Architectural Coatings**

SSPC is a not for profit technical organization representing facility owners (public and private), applicators, and suppliers of materials, equipment and services. SSPC has a history of cooperating with environmental health and safety regulatory organizations to minimize the impact of coatings operations on the health and welfare of the public and the work force.

SSPC's members use or supply coatings in the class defined as industrial maintenance. SSPC's comment are primarily directed at this category, although they may also be applicable to related categories such as rust preventive coatings.

SSPC's comments are as follows:

1. Industrial Maintenance Coatings: 2002 level of 250g/l  
The ARB has proposed the levels issue by SCAQMD. The latter have encountered considerable opposition from industry groups including SSPC. The technology for coatings at 250g/l is not proven for several types of exposure. These include linings for tanks containing aggressive chemicals such as acids, bases, solvents and oxidizers. For potable water tank linings the technology is marginally available at 250g/l but there is a steep learning curve for the specifiers and applicators, 3 years is insufficient time for these to be implemented (e.g., re-qualification by NSF standards, laboratory, and service testing). In addition, SSPC has contacted IM coating suppliers to determine the VOC level achievable for exterior aggressive exposure (e.g., UV, moisture, salt, chemical fumes temperature extremes). Perhaps the most successful product for this application has been polyurethanes, which are not available with VOC's less than 300 to 320 g/l. This proposed SCM would essentially eliminate the current generation of polyurethanes. Any replacements would be based on as yet unproven technology to use on often cumbersome and expensive component equipment. The position of this rule is expected to result in early failure and the need for more frequent repainting.

2. Industrial Maintenance Coatings: 2006 level of 100g/l

This level was also based on SCAQMD's rule making. This level is unachievable with today's technology. So ARB, like SCAQMD is suggesting a rule based on speculation of advances in technology. This approach is not appropriate. In our view, it is not normally a major problem to formulate a coating with reduced or zero level of VOC. Any competent formulator can achieve this level, however performance and application properties are needed for industrial maintenance (as well as other) coatings. There is little if any substantiated performance data on coatings with VOC of 100g/l or less except for a few specialized applications, (e.g., floor coatings).

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SSPC appreciates the opportunity to submit these comments and would be willing to discuss in further detail any of the above comments.

Respectful submitted,

Bernard R. Appleman  
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Join us at SSPC'99 in Houston, Texas Nov. 14-19!

*you reply*

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June 25, 1999

VIA FEDERAL EXPRESS

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Mr. Ron Roberts  
Supervisor, San Diego County  
San Diego AQMD Member

Re: Architectural Coatings Suggested Control Measure

Dear ARB Board Members:

Introduction

We are counsel for the Environmental, Legislative, and Regulatory Advocacy Program of the California Paint and Coatings Industry Alliance (the "California Paint Alliance"), a leading California paint industry trade association on regulatory matters, the Allied Local and Regional Manufacturers Caucus (the "ALARM Caucus"), a national paint industry trade association

concerned with such matters, and various individual paint manufacturers, retail paint dealers, and painting contractors who are headquartered or do substantial business in California.

6a-1 Our clients received a letter, dated May 5, 1999 from your staff inviting them to a public workshop on June 3, 1999 to discuss draft proposed changes to ARB's suggested control measure (last amended in 1989) on architectural coatings. On May 6, 1999 your staff wrote a letter to South Coast AQMD expressing "support" for amendments to its Rule 1113 which would outlaw virtually all architectural coatings on the market. On May 14, 1999 your staff personally appeared before the South Coast AQMD board at a public hearing and, again, expressed "support" for adoption thereof.<sup>1</sup> Our clients have also received the staff's May 19, 1999 letter enclosing "the draft proposed SCM," which is very similar to the South Cost AQMD's amendments. That letter discusses both (a) the approach of "more closely aligning" the proposed SCM with recent amendments, adopted November 8, 1996 and May 14, 1999, to South Coast AQMD's Rule 1113 and, alternatively, (b) the staff's supposed collaboration with districts "to harmonize the SCM's provisions as much as possible" with EPA's architectural coatings regulation imposed nationwide, including in California, on September 11, 1998. We appeared at the June 3 workshop, and your staff appears determined to continue in its effort to follow South Coast AQMD.

A quick look reveals to anyone that it is impossible to "harmonize" the SCM with EPA's new national rule and also to "closely align[]" it with South Coast AQMD's recent amendments. EPA's and South Cost AQMD's actions are based on fundamentally conflicting rationales. The limits in South Coast AQMD's radical and unprecedented new amendments are many times lower than those in EPA's rule.

The ARB staff's recent statements to South Coast AQMD, its draft proposed SCM, and its posture at the workshop make quite clear that the staff has concluded that (1) ARB should amend its SCM at this time, (2) ARB should not "harmonize" those amendments with the new EPA rule, (3) ARB should, instead, "closely align[]" those amendments with the new South Coast AQMD amendments, and

<sup>1</sup> One of the few board members to express his reasons for voting for the bans cited the ARB staff's "very clear statement."

- 6a-1 (4) no prior independent economic nor environmental review by ARB was needed to support those conclusions. -

In this letter, our clients make and defend four basic points:

- 6a-2 • **ARB SHOULD NO LONGER REGULATE ARCHITECTURAL COATINGS.** As a result of EPA's new nationwide regulation of architectural coatings, promulgated September 11, 1998, California regulations, including the SCM and the proposed amendments thereto, are no longer consistent with federal law and, therefore, now violate state law. Indeed, California regulations covering the manufacture and sale of paint are now unconstitutional, because they have been preempted by EPA's new rule under the Supremacy Clause of the U.S. Constitution.
- 6a-3 • **ANY ARB REGULATION OF ARCHITECTURAL COATINGS SHOULD SET REASONABLE LIMITS AND DEADLINES.** Most state and local jurisdictions in America have elected not to regulate architectural coatings at all. The few agencies which have done so have, in the overwhelming number of cases, set reasonable limits and deadlines aimed at reducing excess organic compounds, not outlawing products. ARB set limits in 1981 and again in 1984, as did EPA in 1998, which refrained from counter-productive and anti-competitive bans. Most limits set by most districts in California have also avoided such extreme consequences. Even most of the rulemaking actions taken by South Coast AQMD, itself, during the past 22 years have been supported or unopposed by industry. If ARB continues to be active in this unique field at all, it should follow this well-established consensus in the regulatory community.
- 6a-4 • **ARB SHOULD AVOID THE CATASTROPHIC ERROR OF OUTLAWING VIRTUALLY ALL PAINTS.** South Coast AQMD, alone among all agencies in the nation, has recently lost its senses and banned most architectural coatings. This irrational step, and the growing public outcry it is exciting, will discredit South Coast AQMD in particular and all clean air regulation in general. The ARB staff should rethink the irresponsible position it prematurely took in May. The ARB board should not follow this approach and, indeed, should exercise

6a-4

leadership to restore reason to the statewide clean air program. It should rebuke South Coast AQMD's ill-considered and, we believe, ill-fated action, and it should decline to endorse any similar recommendation from the ARB staff.<sup>2</sup>

6a-5

- **ARB MAY NOT PROCEED FURTHER WITHOUT THE REQUIRED ECONOMIC AND ENVIRONMENTAL ANALYSES.** Proposing and adopting SCM amendments, especially amendments as revolutionary as those favored by your staff, presuppose careful analyses of the economic and environmental consequences thereof and of viable alternatives thereto. Indeed, such analyses are mandated under the Administrative Procedure Act and the California Environmental Quality Act. ARB's staff has jumped to its absurd conclusions without having performed these analyses. The board must insist that such analyses be performed promptly, if ARB is determined to proceed further at all.

The factual and legal support for the above four points is detailed in part II below. But, first, because the ARB board members are new to this subject, which has not been considered by ARB since 1989, we set out certain key background information in part I.

I. FACTUAL BACKGROUND

A. OZONE POLLUTION AND ARCHITECTURAL COATINGS

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As you know, excessive amounts of ozone, although both natural and invisible, cause transient irritation to the lungs of active or sensitive persons during summer afternoons. Ozone is the type of air pollution to which federal, state, and local regulators devote most of their regulatory attention.

The primary precursors of ozone are oxides of nitrogen, emitted mainly by motor vehicles, but also other industrial combustion sources. National Research Council, *Rethinking The*

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<sup>2</sup> Our clients intend to petition ARB to revoke its prior adoption of the South Coast AQMD's 1996 amendments as SIP revisions, and not to adopt its 1999 amendments.

6a-6

*Ozone Problem In Urban and Regional Air Pollution* (National Academy Press, Washington, D.C., 1992) at 7, 11.

6a-7

Organic compounds may also play some role in ozone nonattainment in some areas at some times. Hundreds of such compounds are emitted into the air, primarily by vegetation and motor vehicles, but also by various other evaporative sources, including thousands of commercial processes and consumer products. To be an ozone precursor, even in Los Angeles, an organic compound must be sufficiently volatile to rise into the ambient air and also sufficiently reactive to chemically react there with NO<sub>x</sub> to contribute to excessive ozone concentrations. Some emissions of some organic compounds contribute negligibly or not at all to, or even reduce, ozone pollution. *Id.* at 153-54, 170.

6a-8

The predominant organic compounds in water-borne architectural coatings are a class of resins and additives (co-solvents) which include ethylene glycol and propylene glycol. The best scientific evidence is that these glycol compounds are low in volatility. Harley et al., "Respeciation of Organic Gas Emissions," *Environ. Sci. Technol.* (1992) 2395 at 2400. Indeed, as you know, as used in some products, glycol compounds are deemed by EPA and ARB to be insufficiently volatile to be problematic. For example, ARB's consumer product regulations exempt organic compounds with vapor pressures less than 0.1 mm Hg at 20° C. EPA's national consumer product regulation also exempts organic compounds with such low vapor pressures. Our clients believe that it is probable that the glycol compounds in water-borne coatings are similarly non-problematic.

6a-9

The predominant organic compounds in solvent-borne architectural coatings are a class of petroleum distillate carriers referred to as mineral spirits. The best scientific evidence is that mineral spirit compounds are low in reactivity. Harley at 2401. Congress has mandated, 42 U.S.C. § 7511b(e), and ARB and South Coast AQMD have often recognized, as you know, that organic compound regulations must take relative reactivity into account. ARB's low emission vehicle regulations implement such a strategy with the use of reactivity adjustment factors. Our clients deem it very likely that the mineral spirit compounds in solvent-borne coating are similarly non-problematic insofar as ozone pollution is concerned.



6a-10 EPA, ARB, and South Coast AQMD have never shown that the organic compounds in paints contribute materially or at all to ozone nonattainment.<sup>3</sup> California Paint Alliance and ALARM Caucus, based on the best scientific evidence and hypotheses, assert that paints do not pollute. In short, outlawing architectural coatings does not help one Californian breathe one easier breath. Please think about this basic point as you consider whether or not to outlaw virtually all paint products and, thereby, to destroy a major California industry.

B. HISTORY OF PAINT REGULATION

6a-11 Notwithstanding the absence of a solid scientific foundation, for 22 years EPA, ARB, and South Coast AQMD have led a very determined effort to regulate architectural coatings formulas in the name of clean air. Certain aspects of the effort have constituted what amounts to nothing short of a brutal war on paint manufacturers, dealers, and contractors, their employees, and the paint-consuming public.

6a-12 Given the extreme and radical nature of the South Coast AQMD's recent amendments, and your staff's public support thereof and current proposal based thereon, we submit that ARB must become familiar with the history of such regulation at all three levels of government, including the dark spots as well as the bright.

(1) ARB Regulation

ARB has made substantive policy choices for Californians about paint regulation on four major occasions during the past 22 years.<sup>4</sup>

In 1977 ARB took the lead in establishing California's so-called "model rule" on architectural coatings. Unregulated

6a-10 <sup>3</sup> EPA estimates that organic compound emissions from architectural coatings (even assuming they were both highly volatile and highly reactive) constitute about 1% of such emissions from all sources.

6a-13 <sup>4</sup> State implementation plans containing architectural coatings rules, we understand, have typically been approved and transmitted to EPA by the staff, not the board. The board occasionally considers district plans, containing numerous possible control measures, including some relating to architectural coatings, but rarely the specifics of such measures.

solvent-borne coatings generally exceeded 400 g/L of organic compounds (predominantly mineral spirits), and unregulated water-borne coatings generally fell below 250 g/L of organic compounds (predominantly glycols). The initial model rule would have subjected all coatings to a 250 g/L limit over a period of five years. The basic theory was to outlaw the remaining solvent-borne coatings, thereby forcing makers, sellers, and users to switch to water-borne coatings. This led to litigation under the APA brought by the Ad Hoc Committee of Small California Paint Manufacturers against ARB. Within two years of its adoption, a widespread consensus arose among most regulators and regulated parties alike that ARB's adoption and district implementation of the model rule had been, and would be, an economic and environmental disaster. For example, in 1981 South Coast AQMD effectively repealed the model rule's drastic 250 g/L limit for non-flats.

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In 1981 ARB, then chaired by Mary Nichols (recently appointed as Secretary of the California Resources Agency), reviewed that limit. Health & Safety Code § 41500(b). After extensive public hearings, ARB established in South Coast AQMD the restrictive, but not unreasonable, limit of 380 g/L for non-flats. *Id.* at § 41504. The principle behind ARB's limit was to remove all excess or unnecessary organic compounds from solvent-borne non-flats without banning the products. Other districts followed ARB's lead, and this has been the non-flat limit in most areas ever since.

In 1984 ARB extensively reviewed the model rule limits for all specialty coatings based on technological assessments by outside experts. These limits were thereupon raised by ARB to the 350-420 g/L range. Again, these reasonable reformulation limits have been widely implemented and enforced at the district level for many years and, we believe, have stood the test of time.

In 1989 ARB revisited the issue and, as in 1977, once again became more venturesome. It adopted, over the vigorous opposition of our clients, the current SCM. The SCM fixed limits which would have effectively banned most formulas used to make solvent-borne paints. The theory of the SCM was, as in 1977, to compel the marketplace to substitute water-borne for solvent-borne coatings. Again, as in 1977, the SCM was a flop. A majority of California districts — San Diego APCD, for example — declined to adopt the SCM. Others were ambivalent, such as

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Colusa APCD, which adopted the SCM and, then, promptly repealed it. A few districts which did attempt to implement the SCM, were sued, along with ARB, by our manufacturer, contractor, and dealer clients. *Colusa APCD v. Superior Court*, 226 Cal.App.3d 880 (1991). One court invalidated Bay Area AQMD's amendments under CEQA. *Dunn-Edwards Corp. v. Bay Area AQMD*, 9 Cal.App.4th 644 (1992). Ventura APCD's amendments were also invalidated on the same grounds after a second trial before a second judge. Furthermore, most of South Coast AQMD's amendments were invalidated in a third proceeding. *Dunn-Edwards Corp. v. South Coast AQMD*, 19 Cal.App.4th 519, 522 (1993).

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In short, ARB's record during the last two decades has been mixed. When it sets limits designed to remove excess compounds from paint products, but not to ban those products, it succeeds. Local districts follow, and industry does not challenge the action. But when ARB has attempted to outlaw coatings (even only solvent-borne coatings) it has failed. Local districts and regulated parties rebel and prevail.

## (2) EPA Regulation

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Initially, EPA regulated architectural coatings indirectly through the states. Sections 110, 172, and 182 of the Clean Air Act, 42 U.S.C. §§ 7410, 7502, 7511, mandate that states in ozone nonattainment areas prepare state implementation plans to be approved by EPA. In particular, Section 182(b)(1)(A)(i) mandates that California shall provide for organic compound emissions reductions by 1996 of 15%. Sections 110(k)(5) and 172(d) provide that EPA shall require states to correct plan deficiencies. Federal courts occasionally order districts to implement federally-approved plans. E.g., *CBE v. Deukmejian*, 731 F.Supp. 1448 (N.D. Cal. 1990); *CBE v. Deukmejian*, 746 F.Supp. 976 (N.D. Cal. 1990); *CBE v. Wilson*, 775 F.Supp. 1291 (N.D. Cal. 1991). However, the CAA does not require any state or local regulator to forego his or her usual quasi-legislative discretion not to adopt, or to repeal, an unwise rule. *Trustees For Alaska v. Fink*, 17 F.3d 1209, 1211-13 (9th Cir. 1994); *Coalition Against Columbus Center v. New York*, 967 F.2d 764, 773-75 (2nd Cir. 1992).<sup>5</sup>

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<sup>5</sup> If the CAA were treated as a federal mandate "commandeering" local and state regulators, it would violate the Tenth Amendment of the U.S. Constitution. *Printz v. U.S.*, 117 S.Ct. 2365, 2379, 2384 (1997); *Brown v.*

6a-15 More recently, EPA has begun to regulate architectural coatings and other products directly. In 1990 Congress enacted Section 183(e) which authorized EPA to (a) study, (b) list, and (c) regulate, under a highly specific regulatory process, products emitting organic compounds. 42 U.S.C. § 7511b(e). In 1995 (preliminarily) and 1998 (finally) EPA listed architectural coatings for immediate regulation. Section 183(e)(1)(A) and (3)(A) mandate that such regulations shall require "best available controls," or the degree of emissions reduction determined, on the basis of "technological and economic feasibility" and "environmental . . . impacts," is achievable through application of "the most effective" measures.

6a-17 On September 3, 1996 EPA proposed and on September 11, 1998 it adopted a final national rule on architectural coatings. Again, Ms. Nichols, then as the head of EPA's air program, was in charge of these determinations. EPA's limits are in line with the California consensus, as generally reflected in ARB's 1981 and 1984 actions and virtually all actions of all districts. For example, the limit for nonflat coatings is 380 g/L, the limit for flat coatings is 250 g/L, the limit for industrial maintenance coatings is 450 g/L and the limit for primers is 350 g/L. The theory behind EPA's rule was to extend regulation to water-borne, as well as solvent-borne, coatings, but to remove excess compounds through reformulation only, not to ban any products and force substitution of low- or no- OC paints on non-paint substrate protection products.

### (3) South Coast AQMD and Other District Regulations

6a-18 Some California air districts have never regulated architectural coatings. Others have done so infrequently and moderately. As discussed above, only a few have attempted to embrace ARB's 1989 SCM.

Even South Coast AQMD, itself, has generally acted reasonably. It has amended its paint rule 22 times in 22 years. With several exceptions, most of those actions were widely seen as fair and sensible, as they aimed at removing unnecessary organic compounds from paints, not banning products.

6a-16 EPA, 521 F.2d 827 (9th Cir. 1975), vacated and remanded EPA v. Brown, 431 U.S. 99, 103 (1977), on remand Brown v. EPA, 566 F.2d 665 (9th Cir. 1977).

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South Coast AQMD, however, has recently gone off the deep end. It has in 1996 and 1999 adopted limits, not to remove excess compounds, nor even to ban only solvent-borne coatings, but to ban virtually all architectural coatings, water-borne included.<sup>6</sup> Its rule amendments will in the early part of the next decade, by imposing limits as low as 100 g/L, outlaw all solvent-borne paints and the best water-borne paints. They will later in the decade, by imposing limits as low as 50 g/L, ban virtually all the rest of the coatings used today.

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This is not the time or place to detail the sorry performance of the South Coast AQMD staff, certain outside interest groups, or the decision-making process of the South Coast AQMD board majority. Suffice it to say that our clients contend that the 1996 and 1999 actions were not taken on the merits. South Coast AQMD has made a grave mistake which, we believe, will not stand.

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These draconian actions were taken without widespread public support. The 1999 South Coast AQMD amendments were critiqued extensively by local and national news media. For example, the *Los Angeles Daily News* editorialized that its new rules were "radical" and "drastic." The *Long Beach Press-Telegram* opined that South Coast AQMD regulators are "leaning toward make-believe when it comes to paints" and trading "an all but impossible price to pay" for "improvements in air quality [which] could be next to nothing."

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<sup>6</sup> These bans cannot be excused on the basis of the widely-held (but highly dubious) theory of "technology-forcing." See, e.g., *International Harvester Co. v. Ruckelshaus*, 478 F.2d 615, 623, 629, 634, 636, 641, 642, 649, 650 (D.C. Cir. 1973) (use by clean air regulators of technology-forcing theory is "drastic medicine," a "dangerous game of economic roulette," and "shock treatment," and rulemakers, therefore, must avoid "crystal ball" gazing or "prophecy" at the time of adoption and, if necessary, allow an "escape hatch" or "safety valve" at the time of effectiveness). Here, low-OC and no-OC products have been manufactured and marketed by most companies as low-odor products (and by a few national companies more aggressively) for a number of years, and two-component systems with low-OC or no-OC have also been used in industrial settings for many years. However, virtually no professional nor do-it-yourself painters freely elect to buy and use these either unsuitable or expensive and difficult-to-use products. In short, these new limits do not force the development of new technology; instead, they force the use of existing, but wholly inadequate, technology.

The Daily News conducted this poll: "Do you favor tougher standards for the paint industry?" There were about 500 responses, 94% of which were "no." The Orange County Register asked its readers this question: "Do you think new paint formula regulations will force smaller manufacturers out of business?" Of 184 responses, 91% answered "yes."

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The board member who spearheaded the 1996 ban of flats gave this pathetic rationale in his summation: "... [W]e're at a serious turning point in the history of this District and in our effectiveness as an organization. If we can't pass this we are, in effect, saying that we are failing in our ability to move forward."

Another board member, an elected official whose constituency is larger than those of all other elected official board members combined, voted "no" in 1996 and again in 1999. He cited the amendments' massive costs and nominal benefits, stating in 1996 that his colleagues were taking "a step backward," as well as "a sharp turn to the left."

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Whether South Coast AQMD's recent steps are forward or backward, right or left, one thing is certain: its steps are huge and unlike any others taken before. South Coast AQMD is now alone, isolated from the mainstream, and, we perceive, the object of widespread and growing public ridicule. Unfortunately, ARB's staff has now stepped out into the same untenable and exposed position.

## II. OUR CLIENTS' FOUR MAIN POINTS

### A. THE NEW NEED TO ABSTAIN

#### (1) Policy Reasons

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For 22 years EPA, ARB, and South Coast AQMD have "triple-teamed" paint manufacturers, dealers, and contractors, their workers, and the paint-using public. Now, due to federal action last year, there is absolutely no reason why this wasteful and unfair triplication should continue.

Even if paints pollute, which we deny, it is unconscionable that more than one level of government should continue to regulate. All three agencies are powerful, well-financed, and aggressive. Any one of the three has certainly

proven itself ready, willing, and able to handle the task. The assaults by the other two, at this point, are wholly gratuitous.

Accordingly, at least two of the three levels of government currently regulating architectural coatings should immediately stop doing so. Taxpayers will thereby save two totally wasteful sets of regulatory costs. More significant, the public will save the even larger costs inherent in complying with, not one, but three, sets of rules — which usually conflict.

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ARB is the most obvious candidate of the three to abstain. EPA is the only agency with explicit rulemaking authority over architectural coatings, 42 U.S.C. § 7511b(e), and it has now definitively exercised that authority. Districts also claim the power to regulate all "sources" of "air pollution".<sup>7</sup> On the other hand, the Legislature has explicitly denied ARB authority to regulate architectural coatings. Health and Safety Code § 41712.

In short, the fact the ARB has been involved in the regulation of architectural coatings in the past has been an anomaly, and now it is also an anachronism. ARB should gracefully retire from the field.

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Of course, rulemaking at the district level is "[s]ubject to the powers and duties" of ARB. Health and Safety Code § 40001(a); *People v. A-1 Roofing Service, Inc.*, 87 Cal. App. 3d Supp. 1, 10 (1978). To coordinate district activity and ensure compliance with state standards, ARB shall review district rules to determine whether they are sufficiently effective to achieve and maintain such standards. Health and Safety Code § 41500(b). If ARB finds that district rules will not likely do so, it may establish for a district rules it deems necessary to do so. *Id.* at § 41504(a). This statutory scheme empowers ARB to "oversee" the effectiveness of district regulations with "ultimate authority" to establish them. *Stauffer Chemical Co. v. ARB*, 128 Cal. App. 3d 789, 793 (1992). Furthermore, ARB is authorized to "coordinate" district efforts. Health and Safety Code §§ 39003, 39500. It may also provide "assistance" to any district. *Id.* at § 39605(a). Finally, ARB has the

<sup>7</sup> Cf., *WOGA v. Orange County APCD*, 14 Cal.3d 411, 417 (1975) (districts lack statutory authority to regulate contents of fuel in motor vehicles).

6a-25 responsibility to conduct "research" into the causes of and solution to air pollution.

6a-26 After 22 years of painful experience in the field of architectural coatings regulation, it is doubtful whether districts any longer need ARB's assistance, and whether there is any longer a need for ARB to exercise its oversight powers by adopting model rules. If any ARB oversight actions are deemed appropriate, they would best be limited to two types. First, ARB could coordinate district efforts to harmonize California rules with the EPA rule. Second, ARB could research the volatility of glycols and the reactivity of mineral spirits to determine whether any paints and, if so, which ones are the proper targets of clean air regulation.

(2) Federal Inconsistency

Indeed, continued ARB involvement in this issue is now problematic on legal as well as policy grounds. Because EPA has now adopted nationwide limits on paint contents, state law prohibits inconsistent ARB standard-setting.

6a-27 ARB is required under the APA to prepare and publish an initial statement of reasons describing its efforts to avoid "conflicts with federal regulations . . . addressing the same issues." Government Code § 11346.2(b)(6). It is also bound to include in a notice of rulemaking an informative digest containing a concise and clear summary of "existing laws and regulations . . . related directly to the proposed action" and, if the action "differs substantially from an existing comparable federal regulation or statute," the digest shall include a "description of the significant differences." *Id.* at § 11346.5(a)(3). An ARB regulation is approveable only if it complies with the standard of "[c]onsistency." *Id.* at § 11349.1(a). That means it must be "in harmony with, and not in conflict with or contradictory to," existing law. *Id.* at § 11349(d). These provisions ensure that ARB's regulations are consistent with CAA Section 183(e) and EPA's national paint rule thereunder. *Engelmann v. State Board of Education*, 2 Cal.App.4th 47, 62 (1991).<sup>8</sup>

6a-28 <sup>8</sup> Proposal and any adoption of the draft proposed SCM are subject to APA. The APA is applicable to the exercise of "any quasi-legislative power" conferred upon a state agency by statute. Government Code § 11346. "No state



6a-27 Where, as in the matter now before you, a state law on a particular subject forbids what a federal law on the same subject permits, the two are inconsistent. *California v. FERC*, 495 U.S. 490 (1990) (state law imposing 30-60 cfs minimum on dam operator conflicts with federal law permitting 11-15 cfs minimum); *National Broiler Council v. Voss*, 44 F.3d 740, 747 (9th Cir. 1994) (state law imposing poultry label standards inconsistent with federal law); *California v. FCC*, 39 F.3d 919, 933 (9th Cir. 1994) (state's more stringent requirements on telephone company internet services conflict with more permissive federal law); *Vietnamese Fishermen v. California Department of Fish & Game*, 816 F.Supp. 1468, 1474-5 (N.D. Cal. 1993) (state prohibition of gill nets below 38° north latitude inconsistent with federal rule allowing such use); *Southern Fisheries Assn. v. Martinez*, 772 F.Supp. 1263, 1267-68 (S.D. Fla. 1991) (state law restricting fishermen to 2.99 million pounds per year in conflict

6a-28 agency shall issue, utilize, enforce, or attempt to enforce any . . . standard of general application . . . which is a regulation as defined in subdivision (g) of Section 11342, unless the standard of general application . . . has been adopted as a regulation . . . pursuant to this chapter." *Id.* at § 11340.5. Section 11342(g) defines a regulation as follows: "Regulation means every . . . standard of general application . . . adopted by any state agency to implement the law enforced or administered by it . . ." *Id.* at § 11342(g). The definition is interpreted broadly. *Tidewater Marino Western v. Bradshaw*, 14 Cal.4th 557, 569-71 (1996). In particular, ARB shall adopt standards and regulations in accordance with the provisions of the APA. Health & Safety Code § 39601(a). ARB normally follows the APA in carrying out its quasi-legislative activities. *E.g.*, *Western Oil & Gas Assn. v. ARB*, 37 C.3d 502, 524-29 (1984) (ARB adoption of state air quality standards); *Western States Petroleum Assn. v. Superior Court*, 9 C.4th 559, 565 (1995) (ARB adoption of vehicular source regulation); *Clean Air Constituency v. ARB*, 11 C.3d 801, 815-16, 818-19 (1974) (ARB postponement of effective dates of previously adopted vehicular source regulations); *Stauffer Chemical*, 128 C.A. 3d at 793 n.4, 794, 796 n.5 (ARB review of district rule and establishment of stricter district rule). Where, as here, a state agency adopts standards to be followed by local or other state agencies, their proposal and adoption are subject to APA. *Engelmann*, 2 Cal.App.4th at 55-56; *San Marcos v. California Highway Comm.*, 60 Cal.App.3d 383, 403-10 (1976); *Ligon v. State Personnel Board*, 123 Cal.App.3rd 583, 587, 588 (1981); *Armistead v. State Personnel Board*, 22 Cal. 3d 198, 202-04 (1978). The Office of Administrative Law has determined that a model law adopted by a state environmental agency for consideration and potential adoption by local environmental agencies is, itself, a regulation subject to APA. In *re Ventura County*, 199 OAL Determination No. 19 at 608 (the definition of regulation "does not require that [general] applicability of the challenged rule stem from the adopting agency").

6a-27 with federal law allowing up to 3.14 million pounds). Significantly, this type of inconsistency has been found in a similar case in the clean air context. In *American Motors Corp. v. Blum*, 603 F.2d 978, 981 (D.C. Cir. 1979) the court compared a California air pollution control regulation with a corresponding federal regulation under the CAA,, saying:

" . . . Congress . . . mandates that with respect to small manufacturers a lead period of two years is necessary . . . We conclude . . . that the California regulation, which denies to AMC a lead time of two years, is inconsistent with [the CAA]."

Thus, under state law, ARB may not adopt nor enforce SCM provisions more restrictive than the EPA regulation adopted on September 11, 1998.

### (3) Federal Preemption

Furthermore, any SCM provisions more strict than federal law are also now unconstitutional. Article VI, Clause 2 of the U.S. Constitution provides that ". . . the laws of the United States . . . shall be the supreme law of the land." Under this clause, state laws which interfere with federal laws on the same subject are invalid. See, generally, *McCulloch v. Maryland*, 4 Wheat 316 (1819); *Gibbons v. Ogden*, 9 Wheat. 1, 211 (1824); *Cooley v. Board of Wardens*, 12 How. 299, 319 (1851). Two lines of implied preemption cases are especially pertinent to the matter at hand.

6a-29 First, where a state law on a particular subject forbids what a federal law on the same subject permits, the two are in conflict, as discussed above, and the state law is, therefore, unconstitutional. *American Motors*, 603 F.2d at 981; *FERC*, 495 U.S. at 490; *National Broiler*, 44 F.3d at 747; *FCC*, 39 F.3d at 933; *Vietnamese Fishermen*, 816 F.Supp. at 1474-5; *Southern Fisheries*, 772 F.Supp. at 1267-68.

Here, it is clear that each of the proposed limits (among other provisions) would prohibit manufacture, sale, and use of coatings which the corresponding EPA provision permits. Therefore, each would be conflicting and, for that reason, invalid under the Supremacy Clause.

Under a second line of implied preemption cases, where Congress intends to establish uniform standards governing products which move in interstate commerce, state laws frustrating such national uniformity are preempted. *Ray v. ARCO*, 435 U.S. 151, 166 (1978) (oil tanker design); *International Assn. of Independent Tanker Owners v. Locke*, 148 F.3d 1053 (9th Cir. 1998) (same); *Independent Energy Procedures v. California PUC*, 36 F.3d 848, 854 (9th Cir. 1994) (co-generation facilities).

6a-29 A district court in California and the Ninth Circuit have explicated the above principles in the context of regulating mobile goods to reduce air pollution. In *California v. Navy*, 431 F.Supp. 1271 (N.D. Cal. 1977) ARB and a California air district sued the U.S. Navy alleging violation of California rules regulating pollution emitted from the immobile concrete structures in which moveable jet engines were tested. The court held that the structures could be regulated, but not the engines. The court explained that the general scheme of the CAA is that EPA regulates "moving" sources, but states retain residual authority over "stationary" sources. *Id.* at 1275. It noted the need for national "uniformity" for moveable products. *Id.* at 1284, 1288 n. 14. It stated that CAA preemption protects engine manufacturers "against the 'chaos' of multiplex standards for entities which readily traverse state lines." *Id.* at 1285. The court found that the federal interest was to protect against varying state regulation of the "performance, design, manufacture, operation, etc." of moving products. *Id.* at 1285, 1287. On appeal, *California v. Navy*, 624 F.2d 885 (9th Cir. 1980), the Ninth Circuit agreed, finding that the district court had "extensively and excellently" analyzed implied preemption principles in the context of air pollution regulation of moveable goods. *Id.* at 888, 889. It stated that a purpose of federal preemption of aircraft engine regulation was national "uniformity" of standards. *Id.* at 889. It stated that "federal interests . . . would be impaired" if the engines, themselves, "must be altered to accommodate state law." *Id.* at 889.

*California v. Navy* was followed by a California appellate court in a state air pollution case. *Harbor Fumigation, Inc. v. San Diego APCD*, 43 Cal.App.4th 854, 867 (1996) (district regulation of methyl bromide as a pesticide would be preempted).

In the matter now before ARB, it is clear that Congress intended to promote national uniformity of standards governing

mobile products by enacting CAA Section 183(e). The legislative history so demonstrates. The Report of the House Committee on Energy and Commerce specifically expressed concern about "the potential burden which different States['] standards might impose on manufacturers of products sold nationwide." H.R. Rep. No. 101-490 (May 17, 1990) at 254. Section 183(e)(9) was intended to encourage cooperation in "developing uniform regulation" of such products. *Id.* "Where national regulation and uniformity is necessary, the legislation so indicates." *Id.* at 163. Products "... can be more effectively controlled at a national level ..." *Id.* at 248. Indeed, the House Report specifically contemplated that architectural coatings "... will be covered by a national rule ..." *Id.* at 251. The statement of the Senate managers similarly noted that Section 183(e)(9) is intended to "encourage national uniformity."

Furthermore, EPA's own statement supporting its promulgation of a national regulation of architectural coatings provides further support for this proposition:

"A Federal rule is expected to provide some degree of consistency, predictability, and administrative ease for the industry . . . [A] national rule helps reduce compliance problems associated with noncompliant coatings being transported into nonattainment areas from neighboring areas and neighboring States . . . ." 61 Fed.Reg. at 32731.<sup>9</sup>

<sup>9</sup> Section 183(e)(a) alludes to, but does not explicitly authorize, state regulations of products. This may allow states to regulate the intrastate use of paint. But it does not negate preemption of the regulation of interstate manufacture and sale thereof. *Wisconsin Public Intervener v. Martier*, 501 U.S. 597, 613-14, 615 (1991); *Washington State Building and Construction Trades Council v. Spellman*, 684 F. 2d 627, 630 (9th Cir. 1982); *Casper v. E.I. Dupont de Nemours & Co.*, 806 F. Supp. 903, 905-07 (E.D. Wash. 1992). In addition, certain general provisions of the CAA, which were originally enacted in 1970, state that air pollution control at its source is the primary responsibility of the states and that nothing in the CAA precludes the right of any state to adopt any standard, limit, or requirement respecting control of air pollution. 42 U.S.C. §§ 7401(a)(3); 7416. However, such ancient and general provisions do not prevent preemption. *FERC*, 495 U.S. at 496-507; *Independent Energy Producers*, 36 F.3d at 857 n.14. The U.S. Supreme Court was unable to find in a similar CAA provision "any clear and unambiguous declaration" of residual state power. *Hancock v. Train*, 426 U.S. 167, 180-81 (1976). Indeed, the court was "not able to draw . . . any support" from Section 116, itself, for the state's argument against preemption. *Id.* at 186

6a-29 Thus, the federal mandate that mobile products, including paints, be regulated uniformly on a national basis impliedly preempts all state and local limits, including the proposed SCM amendments, which frustrate the federal limits.

B. REASONABLE CONSENSUS LIMITS

6a-30 If, for some reason, ARB determines that it will stay in the paint game, despite EPA's 1998 rulemaking, it should follow the example of EPA (and most districts, as well as its own examples in 1981 and 1984) and adopt limits which are reasonable, that is, which remove unnecessary organic compounds, but do not actually ban socially valuable paint products.

EPA's 1998 national rule adopted limits which most California manufacturers have found reasonable. These limits require reformulation to remove excess organic compounds for both solvent-borne and water-borne coatings, but they generally do not outlaw product lines. They are now operative in all states, including California.

6a-31 All knowledgeable and candid observers acknowledge that paint bans have massive economic costs. They also acknowledge that any ozone reduction benefits of paint bans are dubious at best, due to low volatility of glycol compounds in water-borne coatings, low reactivity of mineral spirit compounds in solvent-borne coatings, and increased paint usage of low-quality coatings (and, therefore, increased emissions). *Dunn-Edwards v. Bay Area AQMD*, 9 Cal.App.4th at 657-58. Indeed, paint bans will produce still other adverse environmental impacts (aesthetic, health, safety) in either a badly-painted or an unpainted California. Given these facts, precipitous action of the type your staff proposes is wholly unwarranted.

6a-32 Most California air districts, on almost all occasions they have addressed the issue, have regulated architectural coatings — if they have done so at all — by imposing limits and deadlines which required reformulation to remove excess organic compounds, but they did not cross the line and ban products to force substitution of low-quality paints or non-paint products. The consensus at the local level has been so strong that ARB's

6a-29 n.47. Section 116 is not "the kind of clear and unambiguous authorization necessary" to avoid preemption. *Id.*

1989 SCM, which attempted to outlaw certain solvent-borne coatings, has had no real effect in most local areas.

6a-32

ARB, itself, has on key occasions honored this consensus of reason. In 1981, ARB established the 380 g/L limit for non-flats in South Coast AQMD, after which the entire state followed. In 1984, ARB amended its model rule to raise limits for specialty coatings and, again, all districts did the same.

6a-33

Finally, on September 11, 1998, after years of reporting and scheduling activity purporting to comply with the detailed study and listing mandates and the stringent, but sensible, rulemaking standard of CAA Section 183(e), EPA promulgated limits applicable in every state of the union, including California. These limits, too, force California manufactures to remove excess compounds from all their products. But they do not force them to stop making, or their customers to stop using, such products.

6a-34

If ARB believes (we contend erroneously) that it must continue to act, then it should, indeed, "harmonize" the SCM with the new EPA rule and also with the vast majority of all district rules, as well its own rulemaking actions of 1981 and 1984. The regulatory consensus was at least reasonable and is the only defensible type of continued activity.

#### C. SOUTH COAST AQMD MISTAKE

In stark contrast, South Coast AQMD's recent actions are no example for ARB or any other agency to follow.

6a-35

To any astute observer, it was obvious that the South Coast AQMD staff members who recommended the new amendments, the interest groups which supported them, and the South Coast AQMD board members who voted for them, did not act on the basis of the environmental and economic merits, but on the basis of extraneous factors. These radical and extreme actions were driven not by reason but by power and emotion.

What will be the consequences of South Coast AQMD's irresponsible actions? Of course, no one can predict the future with any certainty. But here is our best speculation at this time: South Coast AQMD's recent proposal mobilized public opposition as never before, and its adoption will surely intensify that mobilization. The fight against unreasonable

rules during the past 22 years has been led primarily by a few Southern California paint manufacturers. South Coast AQMD's actions are sure to motivate manufacturers across the nation to become much more actively involved in the crusade. Indeed, large multi-national manufacturers which have in the past not opposed, or even supported, regulation may well join the fight. Contractors and dealers, most of which have to this point been only moderately active, are expected to come forward in the thousands. The same is true of the hundreds of thousands of workers who make, sell, or apply paint for a living. Finally, architects, decorators, and industrial, commercial, and residential users of paint products, who are outraged at the senseless bans, we predict, will become active in a new nationwide campaign to reverse them.

6a-35 How will that new and indignant force of opposition go about attempting to reverse the product bans? Again, please allow us to risk some predictions: Heretofore, Southern California manufacturers have relied primarily upon courteous presentations to regulators of the scientific and economic merits and on occasional law suits to prevent or invalidate rule adoptions. These basic methods of social action will continue. But, in addition, regulators in the future should expect to encounter new responses. Any future litigation will have to consider seeking monetary relief in addition to rule invalidation.<sup>10</sup> Manufacturers, dealers, contractors, workers, and consumers can also be expected to take their just grievances to the Legislature and the Congress. The issue could also well become a major subject of press attention and, indeed, a prime example of regulatory failure in the mind of the public. For

<sup>10</sup> For example, trade secrets, including product formulas, are protected property interests. *Formulabs, Inc. v. Hartly Pen Co.*, 275 F.2d 52, 56 (9th Cir. 1960); *Clark v. Bunker*, 453 F.2d 1006, 1009 (9th Cir. 1972); *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 474-75 (1974); *Pachmayr Gun Works, Inc. v. Olin Mathieson Chemical Corp.*, 502 F.2d 802, 807 (9th Cir. 1974). A taking by the government of intangible property for public use requires the payment of just compensation. *Oakland v. Oakland Raiders*, 32 C.3d 60, 66-69 (1982). This principle embraces trade secrets, such as chemical product formulas. *ITT Telecom Products Corp. v. Dooley*, 214 C.A.3d 307, 318 (1989); *Anchem Products, Inc. v. Costle*, 481 F.Supp 195, 199 (S.D.N.Y. 1979); *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1000-14 (1984). Paint manufacturers use thousands of formulas to make and sell their products in California. The amendments in question will render useless and valueless and, thereby, "take" those formulas overnight. The fair market value of the formulas in question is about \$400 million.

6a-35 example, imagine millions of paint cans and pails on retail shelves and delivery trucks and at job sites bearing stickers crying "Save Paint" and thousands of signs in paint stores, home centers, lumber yards, and hardware stores bearing the same message. Imagine also millions of shoppers and homeowners being handed brochures telling the story of what paints have been outlawed, by whom, for what reason, and with what effect. In short, holding appointed and elected officials accountable for unjust and irrational regulatory actions will likely be the new paradigm.

D. ARB STUDY DUTIES

6a-36 Before taking any form of quasi-legislative action, ARB must first analyze the environmental and economic effects of the major alternative approaches. This the staff did not do, but the board must insist that it do, before any further public statements.

(1) Environmental Impacts

6a-37 ARB is bound under CEQA to submit written documentation, containing environmental information, as to any project which may have a significant effect on the environment. Pub. Res. Code § 21080.5(a). Such documentation is required to include a description of the proposed activity with alternatives thereto and measures to minimize any significant adverse environmental impact thereof. *Id.* at § 21080.5(d)(3)(i); 14 Cal. Code Regs. § 15252. Under Section 21080.5 an agency must prepare documentation which is the "functional equivalent" of a full environmental impact report. *City of Coronado v. California Coastal Zone Conservation Commission*, 69 C.A.3d 570, 581 (1977); *Gallegos v. State Board of Forestry*, 76 C.A.3d 945, 953 (1978). Indeed, the information required in such a document is "essentially duplicative" of that which would be included in a full EIR. *Citizens For Non-Toxic Pest Control v. Department of Food & Agriculture*, 187 C.A.3d 1575, 1584 (1986). An agency subject to Section 21080.5 must adhere to CEQA's "substantive criteria" and "broad policy goals." *Environmental Protection Information Center, Inc. v. Johnson*, 170 C.A.3d 604, 618, 620 (1985). ARB is "responsible" for complying with CEQA, has to "meet its own responsibilities," and "shall not rely" on other



6a-37 agencies. 14 Cal. Code Regs. § 15020; *Dunn-Edwards v. Bay Area AQMD*, 9 Cal.App.4th at 656.<sup>11</sup>

6a-38 Prior to offering "support" for South Coast AQMD's amendments and floating the draft proposed SCM, ARB's staff failed to prepare an EIR-equivalent analyzing the following adverse environmental impacts of the proposed amendments: (1) aesthetic impacts of first and second set of limits, (2) health and safety impacts thereof, (3) increased volatility of emissions after first set, (4) increased reactivity thereof thereafter, (5) increased emissions thereafter, and (6) adverse ozone impacts of substitutes for paint products. Alternatives must also be assessed. These adverse environmental impacts and alternatives are discussed extensively in our April 21, 1999 letter to SCAQMD. A copy of this letter will be sent to you under separate cover.

ARB's staff took a shot in the dark by taking extremely important, and harmful, regulatory positions in public before analyzing the adverse environmental effects of those positions. At the June 3 workshop, ARB's staff promised to prepare a draft EIR-equivalent by the end of June. Unfortunately, that will come two months after the staff's damaging actions.

6a-37 <sup>11</sup> The term "project" is broadly defined in CEQA Section 21065(a), as follows: "[Project] means an activity which may cause . . . a reasonably foreseeable indirect physical change in the environment, and which is . . . [a]n activity directly undertaken by any public agency. . . ." Pub. Res. Code § 21065(a); see also 14 Cal. Code Regs. § 15378(a). The term "project," as used in CEQA, is given a "broad" interpretation by the courts. *Friends of Mammoth v. Board of Supervisors*, 8 C.3d 247, 259-62 (1972). Indeed, such broad interpretation is "[t]he foremost principle under CEQA." *Laurel Heights Improvement Assn. v. Regents*, 47 C.3d 376, 390-91 (1988). The projects to which the mandate of CEQA Section 21080.5 applies involve the "adoption or approval of standards . . . or plans for use in the regulatory program." Pub. Res. Code § 21080.5(b)(2). ARB's program has been so certified to involve "the adoption, approval, amendment or repeal of standards . . . or plans to be used in the regulatory program." 14 Cal. Code Regs. § 15251(d). The first of several governmental approvals of a project requires CEQA compliance. *Citizens Assn. For Sensible Development of Bishop Area v. County of Inyo*, 172 C.A.3d 151, 164-68 (1985). The first step of a multi-step project must be the subject of appropriate environmental review under CEQA. *City of Carmel-By-The-Sea v. Board of Supervisors*, 183 C.A.3d 229, 240-49 (1986). Environmental review documentation meeting CEQA requirements must be prepared at the earliest possible stage. *Id.* at 249-52.

6a-39 We note that on June 11, 1999 ARB published an initial study and a notice of preparation of an EIR-equivalent. It appears that ARB does not intend to address certain impacts, including (1), (2), and (6) above, nor certain alternatives, including manufacturer disclosures.

(2) Economic Impacts

The APA requires that any state agency think very carefully and in specific ways about the economic and other effects of a proposed quasi-legislative standard before adopting it. In particular, the agency shall assess whether and to what extent the proposed standard will affect the elimination of existing businesses or jobs within California. Government Code §§ 11346.3(b); 11346.54. It shall also assess the potential for adverse economic impact on California business enterprises and individuals, avoiding the imposition of unnecessary or unreasonable regulations. *Id.* at § 11346.3(a). Agency action shall be based on adequate information concerning the need for, and consequences of, the action. *Id.* at § 11346.3(a)(1). The agency shall consider the impact on business, including the ability of California business to compete with out-of-state business. *Id.* at § 11346.3(a)(2).

6a-40 To ensure that such assessments and considerations are performed, an agency shall prepare, submit to the Office of Administrative Law, and make available to the public an initial statement of reasons for proposing the adoption or amendment of a regulation. *Id.* at § 11346.2(b). The initial statement shall include: (1) a description of the problem, requirement, condition, or circumstance the regulation is intended to address; (2) a statement of the specific purpose thereof, the rationale for determining that it is reasonably necessary, and the reasons why any prescriptive standards are required;<sup>12</sup> (3) an identification of each study or report upon which the agency relies; (4) a description of any alternatives considered, including performance standards and alternatives that would lessen the adverse impact on small business, and the reasons for

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<sup>12</sup> A prescriptive standard is a regulation that specifies the sole means of compliance with a performance standard by specific actions, measurements, or other quantifiable means. *Id.* at § 11342(f). A performance standard, on the other hand, is one that describes an objective with the criteria stated for achieving the objective. *Id.* at § 11342(d).

rejecting them;<sup>13</sup> and (5) evidence relied upon to support a finding that the action will not have a significant adverse economic impact on business.

6a-40 Furthermore, the public notice mandated by APA shall include various information, including an informative digest containing a concise and clear summary of the effect of the proposed action. *Id.* at § 11346.5(a)(3). If the proposed action affects small business, it shall also include a policy statement overview explaining the objectives. *Id.* at § 11346.5(a)(3)(B). An agency shall determine whether the action may have a significant adverse economic impact on business. *Id.* at §§ 11346.5(a)(7), (8). If it may, the notice shall so state, identify types of businesses affected, and solicit proposals for alternatives, including exemptions, differing timetables, and performance standards, that would lessen the impact. *Id.* at § 11346.5(a)(7). If not, it shall so declare and provide evidence to support the declaration. *Id.* at § 11346.5(a)(8). The notice shall also include a statement of potential cost impact, i.e., the reasonable range of costs, or a description of the type and extent of direct or indirect costs. *Id.* at § 11346.5(a)(9). It shall further include a statement as to any significant effect on housing costs. *Id.* at § 11346.5(a)(11). Finally, the notice shall include a statement that the agency must determine that no alternative considered would be more effective or as effective and less burdensome. *Id.* at § 11346.5(a)(12).

Upon adoption of a regulation, an agency shall prepare and submit to OAL a final statement of reasons. *Id.* at § 11346.9(a). The final statement shall update the information in the initial statement. *Id.* at § 11346.9(a)(1), (b). It shall include a determination, with supporting information, that no alternative would be more effective or as effective and less burdensome. *Id.* at § 11346.9(a)(4). It shall also include an explanation setting forth the reasons for rejecting any proposed alternatives that would lessen the adverse economic impact on small business. *Id.* at § 11346.9(a)(5).

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<sup>13</sup> A small business is one which is independently owned and operated and not dominant in its field of operation. *Id.* at § 11342(h)(1). The term does not include a manufacturer with more than 250 employees, a contractor with more the \$5,000,000 in annual gross receipts, or a retail dealer with more than \$2,000,000 in such receipts. *Id.* at § 11342(h)(2)(I)(iii), (iv), (J).

6a-40 OAL shall review regulations and make certain determinations. *Id.* at §§ 11349; 11349.1(a). It shall approve the regulation if it complies with APA. *Id.* at § 11349.1(a). OAL shall return any regulation failing to comply with certain provisions of APA. *Id.* at §§ 11349.1(d), (f); 11349.3.

6a-41 Again, ARB's staff has supported, and proposed, draconian regulation without having performed any of these economic analyses, including: (1) manufacturers' formulas taken, (2) costs of successful reformulation, (3) costs of unsuccessful efforts to reformulate, (4) costs to retailers, (5) costs to contractors, (6) effects on small business (7) anti-competitive impacts, (8) job losses, and (9) losses suffered by consumers. The staff has also failed to identify alternatives (such as directions for use, seasonal use restrictions, and harmonization with EPA's rule) and analyze the various alternatives for cost-effectiveness. A comprehensive discussion of these economic impacts is contained in our May 7, 1999 letter to SCAQMD. A copy of the letter will be sent to you under separate cover.

ARB's staff clearly jumped the gun. It has taken an extreme public position — that the California paint industry should do without virtually all of its existing products — without having even thought about the economic consequences of that unprecedented approach. Indeed, the staff indicated at the June 3 workshop that it intended to press forward without performing an economic analysis under APA. The ARB board must correct this serious (and already disastrous) failure at once.

#### Conclusion

In 1763 Parliament thoughtlessly and arrogantly imposed on the American Colonies the so-called Townshend Duties, under which various products imported from England to America — including paints — were subjected to severe burdens. The Colonists were outraged and, even though Parliament repealed the statute in 1765, the short-lived legislation was a major cause of our glorious American Revolution.

6a-42 South Coast AQMD has similarly made a blunder of cosmic proportions. ARB's staff has aided and abetted that blunder and is now proposing that the ARB board follow suit. No.

6a-43 Our clients submit that ARB should get out of the business of triple-teaming the paint industry, now that EPA has

6a-43

taken over. If it insists on staying in the business, ARB should harmonize its SCM with EPA's national rule, most districts rules, and ARB's own 1981 and 1984 actions. ARB should avoid making the grievous mistake made by South Coast AQMD. Finally, ARB must not take any further action without first conducting its own environmental review under CEQA and its own economic review under APA.

Very truly yours,

*William M. Smiland/mme*  
William M. Smiland

WMS/mme

cc: Michael P. Kenny (Duplicate By Fax)  
Peter Venturini (Duplicate By Fax)  
Dean C. Simeroth (Duplicate By Fax)  
Jim Nyarady (Duplicate By Fax)  
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August 17, 1999

Mr. Jim Nyarady  
Manager, Strategy Evaluation Section  
Stationary Source Division  
Air Resource Board  
Post Office Box 2815  
Sacramento, CA 95812

Re: Draft Environmental Impact  
Report for Suggested Control  
Measure for Architectural Coatings

Dear Mr. Nyarady:

This firm represents the California Paint Alliance, a leading California paint industry trade association on regulatory matters, the Allied Local and Regional Manufacturers Caucus, a national paint industry trade association concerned with such matters, and various individual paint manufacturers, retail paint dealers and painting contractors who are headquartered or do substantial business in California and this letter is written on their behalf in response to the Notice of Preparation of a Draft Program Environmental Impact Report for ARB's proposed amendments to the architectural coatings Suggested Control Measure ("Notice").

As you correctly state in the Background section (at 1-3), volatile organic compounds ("VOC") are not classified as criteria pollutants and no federal or state ambient air quality standards exist for such compounds. Thus, regulation of VOC should be undertaken only if, and to the extent, the VOC to be regulated participate in promoting ozone concentrations in excess of the standards. However, the Notice goes on to state (at 1-3), "In general, ambient VOC concentrations in the atmosphere are suspected to cause coughing, sneezing, headaches, weakness, laryngitis, and bronchitis, even at low concentrations." No citations in support of this statement are listed. I request that you provide me with a complete bibliography of any studies, articles, reports or other documents that you contend support this statement about the impacts ambient VOC are "suspected" to cause.

6b-1

Mr. Jim Nyarady  
August 17, 1999  
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6b-2 In the Alternatives section (at 1-9) the Notice lists seven alternatives that are under consideration for inclusion in the Draft Program EIR. We strongly support the inclusion and comprehensive analysis of each of the listed alternatives. In particular, a regulatory strategy incorporating exemptions for low vapor pressure and negligibly reactive compounds is consistent both with the objective of achieving ozone attainment and similar regulatory programs developed by ARB.

6b-3 The Environmental Checklist (at 2-11) states that the proposed project will have no impact on use of non-renewable resources in a wasteful and inefficient manner. ARB must face the reality that the draconian limits its proposes will drive home and property owners away from the unsatisfactory coatings that remain on the market to non-paint alternatives such as vinyl or aluminum siding for exterior use and wall coverings for interior use. The effect of this switch has the potential to adversely impact use of non-renewable resources.

6b-4 The Checklist also states (at 2-15) that the project will have no impact on aesthetics. CEQA provides that it is the policy of California to take all actions necessary to provide its people with "enjoyment of aesthetic, scenic, and historic environmental qualities." Pub. Res. Code §21001(b). The environment must be pleasing to the senses and intellect of man, and regulations must provide a decent home and satisfying living environment for every Californian. *Id.* at §§21000(b), (g); 21001(c). Under the CEQA Guidelines, a project is deemed to have a significant effect on the environment if it will have a "substantial, demonstrable negative aesthetic effect." 14 Cal. Code Regs., App. G(b).

In *Quail Botanical Gardens Foundation, Inc. v. City of Encinitas*, 29 Cal.App. 4th 1597, 1603-07 (1994) the court set aside the certification of a negative declaration based upon the city's failure to analyze the aesthetic impacts (impaired ocean views) of the project (a residential subdivision). The court found substantial evidence supporting a fair argument of the possibility of such impact. It ruled that Appendix G(b) of the Guidelines established "a rebuttable presumption" that aesthetic impacts are significant. *Id.* at 1604. The court found it "self-evident" that the project would have negative effects on "beauty." *Id.* at 1604, 1606. Any assertions to the contrary by the city were not adequate to support a decision to dispense with environmental analysis of the aesthetic impacts. *Id.* at 1607.

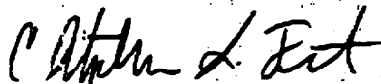
Obviously, banning over 90% of the coatings now available may have significant impacts on the living environment of every Californian.

Mr. Jim Nyarady  
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6b-5

In addition to the omissions noted above, the Checklist fails to adequately address the potential health and safety impacts of the project, as well as increased reactivity and volatility and increased emissions. The radical nature of the proposed project demands that any Draft Program EIR address substantially more impacts than are identified in the Notice.

Yours very truly,



Christopher G. Foster

CGF/cam





**TEXTURED COATINGS OF AMERICA, INC.**

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June 24, 1999

Note: Confidential information contained in this letter was redacted  
as requested by Textured Coatings of America, Inc.

Via Facsimile (916) 322-6088 and Federal Express Overnight

Mr. Jim Nyarady, Manager  
Strategy Evaluation Section, Stationary Source Division  
Air Resources Board  
2020 "L" Street – Fourth Floor  
Sacramento, CA 95814

Dear Mr. Nyarady:

I am writing to explain to you why the California Air Resources Board should establish the following coatings as specialty coatings at the recommended VOC limits. In addition, I have included comments as to why mastic textured coatings should remain at 300 grams per liter as the SCAQMD has done.

- |                                |                                       |
|--------------------------------|---------------------------------------|
| • concrete protective coatings | 400 grams of VOC per liter of coating |
| • anti-graffiti coatings       | 600 grams of VOC per liter of coating |
| • specialty primer coatings    | 350 grams of VOC per liter of coating |
| • mastic textured coatings     | 300 grams of VOC per liter of coating |

I understand that you will require information concerning three factors justifying the coatings categories and the recommended limits: 1) technical justification for the coating and why lower VOC coatings are not an adequate substitute; 2) the additional VOC emissions that would be associated with the coatings at the recommended VOC levels; and 3) why the averaging provisions cannot be effectively used to keep these coatings in the market.

**CONCRETE PROTECTIVE COATINGS**

**Technical Justification:** We sell a Concrete Protective Coating XL-70<sup>®</sup> (basic chemistry vinyl toluene acrylic copolymer resin). This chemistry requires a VOC content of 400 grams per liter to achieve the coatings required performance and application characteristics.

The product is a solvent-base vinyl toluene acrylic copolymer system that is designed to go through form oils and release agent materials that are used in the forming of the concrete and remain on the surface of the concrete. Lower VOC products cannot penetrate these materials and provide the required adhesion. This product has been extensively tested over bare concrete. It was designed to meet the GSA Federal specification T.T.C 555 B for cement masonry surfaces.

It is also specified for bare old or new "green" concrete bridges by D.O.T.'s of many states, as well as architects for poured-in-place concrete and tilt-up. In all these cases the choice of textures and the high film built (16 miles dry) permit the product to bridge hair line cracks and diminish surface imperfections.

7-2 You will note that the coating uses an acrylic copolymer resin. The acrylic resin coatings chemistry has been identified by staff as presenting opportunities for lower VOC products and this was a consideration in selecting it for this coating. The performance characteristics that require the higher VOC content which cannot be met by lower VOC materials include that it is a primer-less, one coat system which is 15 to 20 times thicker than normal paint to provide protection for periods of over 20 years without requiring recoating and to meet similar strict performance requirements and specifications.

The prevention of the deterioration of concrete buildings, bridges, and other structures, which are not easily maintained or rebuilt, is the coating's primary purpose. The chemistry, which results in the hardness and long durability of the coating, is a high solids chemistry, which results in a dense coating. Because of its high solids and density and thus enhanced protective qualities, the chief beneficial characteristic of the coating which distinguishes it from other coatings that might otherwise be used, it requires a higher VOC content to perform and to be effectively applied. This coating, when applied, achieves excellent adhesion to the concrete and cures to a hard thick protective coating. Exposed concrete structures, which are increasingly being built in lieu of steel structures, require protection from extreme weather conditions, salt spray, and from water and chloride ion intrusion which can break down the concrete and thereby deteriorate the structure. An example of an extreme weather condition which the coating is designed to protect against is a hail or heavy rain storm, which would breakdown less durable coatings and thereby expose the concrete to salt spray and chloride ion intrusion. While such extreme conditions may be rare, they can be highly destructive of less durable coatings over large areas of concrete surfaces greatly increasing the probability of deterioration of the structure if not repainted. The coating's single coat application, primer-less, and longevity features not only reduce VOC emissions, they also reduce worker safety risks because the total number of man-hours that otherwise would be required to coat and recoat the difficult and often dangerous to paint concrete structures are greatly reduced.

**Additional VOC Emissions:**

7-3 It is expected that as the use of tilt up concrete structures increases in the District there will be more demand for the coatings. However, these structures will require some type of coating in any event. Use of our coating reduces the repainting that would otherwise occur and thereby reduces VOC emissions over time.

7-4 **Inability to Use Averaging:** We are a specialty high performance coating manufacturer and therefore do not manufacture coatings which lend themselves to very low VOC content, e.g., flat interior coatings. We do make every effort to lower the VOC content of our coatings, however,

- 7-4 as evidenced by our use of acrylic technology for our concrete protective coatings. The averaging provisions can only be effectively used by companies with diverse coating lines and thus penalize a company like Textured Coatings of America which has devoted its efforts to developing niche market coatings that otherwise would not have been developed because the volumes are too small to interest large manufacturers with diverse coating lines. This product represents our entire product line in the industrial maintenance coatings area.

### ANTI-GRAFFITI COATINGS

- 7-5 **Technical Justification:** Our anti-graffiti coatings are solvent borne polyurethane products. The coating provides a permanent as opposed to a temporary anti-graffiti system and the chemistry to accomplish this requires a VOC content of at least 600 grams per liter. It is important to understand why permanent systems are required for anti-graffiti systems. Besides eliminating the need for successive recoatings (the permanent systems can be cleaned of subsequently applied graffiti) the systems also provide the only effective anti-graffiti protection for surfaces that cannot be repainted, such as murals. The clear hard coating of our product can be cleaned and still protect the underlying mural without having to reapply the anti-graffiti product again. In fact, during the last Olympic games held in Los Angeles, it was our anti-graffiti system that was used on the city's murals. Our anti-graffiti system is approved by the city of Los Angeles under their Research Report #25054-T and is identified as Graffiti Gard IIIS.

- 7-6 **Additional VOC Emissions:**  
Use of our coating reduces the repainting that would otherwise occur after each graffiti episode and thereby reduces VOC emissions over time. Moreover, based on the Air Resources Board's Architectural Coatings Survey, it does not appear anti-graffiti coatings represent any substantial emissions. In fact, your survey failed to identify any sales gallons reported.

- 7-7 **Inability to Use Averaging:** We are a specialty high performance coating manufacturer and therefore do not manufacture coatings which lend themselves to very low VOC content, e.g., flat interior coatings. We do make every effort to lower the VOC content of our coatings. The averaging provisions can only be effectively used by companies with diverse coating lines and thus penalize a company like Textured Coatings of America which has devoted its efforts to developing niche market coatings that otherwise would not have been developed because the volumes are too small to interest large manufacturers with diverse coating lines.

### SPECIALTY PRIMERS

- 7-8 **Technical Justification:** We sell three specialty primers. Our XL-70<sup>®</sup> Masonry Primer is used primarily to prime poured-in-place concrete and tilt-up concrete (pre-formed concrete that is delivered to the building site and then is "tilted-up" into place, see enclosed photographs). The product is a solvent-base vinyl toluene acrylic copolymer system that is designed to go through form oils and release agent materials that are used in the forming of the concrete and remain on the surface of the concrete.

Lower VOC products (including latex systems) cannot penetrate these materials and provide the required adhesion.

7-8

Our other two major specialty solvent based primers, namely Primer 27 and Primer 62, were specifically designed to go over less than ideal wood surfaces and chalky paint. The higher VOC (350 grams per liter) solvent primers penetrate the chalky surfaces and provide excellent adhesion for subsequent topcoats. Waterborne products cannot do the same, and thus require far more surface preparation. Latex primers are not recommended for cement masonry block, brick and mineral surfaces that have been previously treated with silicone-type water repellents. They require a special solvent-based primer to be used. TCA's primers XL-70<sup>®</sup>, Primer 27 or Primer 62 are ideal for these surfaces. Other surface types requiring specialty primers with VOC levels of 350 grams per liter are galvanized metal, aluminum, copper, stainless steel, ferrous metal and baked enamels.

#### **Additional VOC Emissions:**

7-9

**Inability to Use Averaging:** We are a specialty high performance coating manufacturer and therefore do not manufacture coatings which lend themselves to very low VOC content, e.g., flat interior coatings. We do make every effort to lower the VOC content of our coatings, however, as evidenced by our use of acrylic technology for our concrete protective coatings. The averaging provisions can only be effectively used by companies with diverse coating lines and thus penalize a company like Textured Coatings of America which has devoted its efforts to developing niche market coatings that otherwise would not have been developed because the volumes are too small to interest large manufacturers with diverse coating lines.

#### **MASTIC TEXTURED COATINGS**

These coatings have the appearance and consistency of liquid stucco. This is a highly specialized coating system that Textured Coatings of America, Inc. has manufactured for over thirty-nine years.

The solvent-based mastic is specified by architects for commercial application and also available to the Home Improvement market via contractors. The mastic textured coatings will weatherproof for fifteen to twenty years. This system meets Federal Specification TTC 555 B.

7-10

**Technical Justification:** The highlights of this specification are: (1) Resistant to 98 miles per hour wind driven rain (2) Permeability requirement (3) Minimum 60% solids (4) Flexibility and (5) Impact resistance.

7-10

It also has a Class A Fire Rating per ASTM E 84, and has passed a 7,500 hours weatherometer test. The challenge in applying this coating at a specification of 50 square feet per gallon is to maintain a wet edge in the coating, especially when making multiple drops on a stage for high-rise buildings. A solvent film will stay wet longer than a latex mastic and will accept subsequent coating application for uniformity. Under the same conditions, a latex mastic forms a dry skin before the next application coat is applied. This results in line humps leaving an undesirable appearance. In addition, hot weather conditions have undesirable effects with latex mastics, producing bubbling due to fast surface skinning over a liquid base.

Please note your survey data for mastic textured coatings does not show any sales volume above 150 grams per liter of VOC. All of TCA's products within this category are above 150 grams per liter.

Our solvent based mastic VOC's can vary depending on the texture and variation on perlite absorption. The perlite is used for different gradations of texture. We request that the VOC of 300 grams per liter be sustained. This category was never considered for reduction by the SCAQMD. TCA does not understand why this agency is choosing to attack this category when the total volume sold in California is insignificant. These products play a vital role protecting this state's infrastructure and the 50 grams per liter savings does not represent any significant VOC reductions.

**Additional VOC Emissions:**

7-11

**Inability to Use Averaging:** We are a specialty high performance coating manufacturer and therefore do not manufacture coatings which lend themselves to very low VOC content, e.g., flat interior coatings. We do make every effort to lower the VOC content of our coatings. The averaging provisions can only be effectively used by companies with diverse coating lines and thus penalize a company like Textured Coatings of America which has devoted its efforts to developing niche market coatings that otherwise would not have been developed because the volumes are too small to interest large manufacturers with diverse coating lines.

In conclusion we urge that this board mandate the inclusion of the additional coating categories referenced above, put forth in this document and recommended by the NPCA. I believe that more time is needed before a sound decision can be made regarding the Air Resources Board's massive proposed reductions of VOC limits. This would allow a more thorough review of technologies and results of a recent AIM coatings performance survey commissioned by the SCAQMD.

7-12

Please recognize that TCA currently employs 65 people. If these limits go into effect, one of the outcomes for TCA will be to close its Los Angeles factory and re-locate it outside of the state of

Jim Nyarady  
Air Resources Board  
June 24, 1999  
Page 6

7-12

California. This would eliminate the livelihood all of our California employees as well as thousands of other people who make their living by selling and applying TCA's products in the state of California. This could be economically and socially devastating for many of our employees, some who have been employed with TCA in excess of 25 years or more and whose livelihoods depend on the operation of this factory.

Sincerely,



Kevin Worrall  
Chief Chemist

Enclosure (tilt-up photographs)



Christine Stanley  
V.P. Technology

PROTECTIVE COATINGS GROUP  
Headquarters  
Brea, California 92821

**FAX!**

**FROM:** Christine Stanley      **DATE:** July 20, 1999  
**TO:** CARB      **FAX:** 916/322-6088  
**ATTN:** Jim Nyarady      **PAGES:** 2 (Including cover sheet)  
**SUBJECT:** SCM FOR ARCHITECTURAL COATINGS, COMMENTS ON NOP

Following are our comments on the NOP. These include an overview of the comments made to you during our telephone conference of 6/16 and include the data on nuclear coatings you requested.

- 8-1 [ 1. We do believe there is a need for the Chemical Storage Tank Coating category as in South Coast's Rule 1113.
- 8-2 [ 2. We do believe there is a need for Nuclear Coatings as defined in the National AIM Rule. Our research shows that an average nuclear power plant will use up to 500 gallons per year on maintenance of Level 1 and Level 2 areas. The worst case would be if a plant completely repainted all these areas which would require approximately 4000 gallons per unit. This is an unusual occurrence and not normally expected through the life of the plant but gives you an idea of worst case.
- 8-3 [ 3. The definition of tint base could be misinterpreted to include job sites and traditional paint stores only and exclude warehouses; we suggest that the definition used in South Coast's Rule 1113 be used.
- 8-4 [ 4. We cannot envision all the technology needs for the industrial maintenance market to meet the limits set forth for 2006. We believe, at this time, that these limits need not be set and that the second tier limits can be worked on after the effective date of the first tier when it will be clearer as to the available technology.
- 8-5 [ 5. We believe that to meet the 2002 Industrial Maintenance Limits, some provision has to be made for low volume, non-compliant special use products. This could be averaging, variance procedure and/or small volume exemption. It is not possible for us to know every present use or foresee every future use of our products. As our customers change their products and processes, so their coatings needs change. As you reach the limits proposed, many technologies are no longer available to meet these new needs and we do not know if those remaining will do the job.

Mr. Jim Nyarady  
CARB  
July 20, 1999  
Page 2

8-6

6. We believe that some consideration must be given to atmospheric conditions during application of coatings. The South Coast has a very moderate climate that lends itself to easier coatings applications. This is not true for the rest of California where both very high temperatures, low temperatures and high humidity environments can exist. High temperatures can drive solvent from a coating very quickly and thinning with very slow solvents can be necessary to apply a continuous film. Low temperatures lead to thicker material that requires fast solvent to thin the material to achieve atomization during spraying or flow and leveling during brush and roll applications. In low temperatures and high humidities, water-based products will not dry and consequently, these coatings cannot be used in these conditions. We would suggest a higher limit for applications that have such conditions. Since all the technology needed to meet the 2002 limits is not yet available, we find it very difficult to determine what that limit should be but suggest that 340 gms/liter may be appropriate.

Please call me if you have any questions at 714/529-1951, Ext. 212.

  
CS:rb

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Phone: 714/529-1951, Ext. 201, 202, or 213 \ Fax: 714/529-1768

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The Euclid Chemical Company 19218 Redwood Road Cleveland, Ohio 44110-2799

216-531-9222 • 800-321-7628 • Fax: 216-531-9596 • [www.euclidchemical.com](http://www.euclidchemical.com)

William F. (Pim) VanSiseeren  
Director of Marketing and  
Technical Services

July 9, 1999

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Roseville, CA 95661  
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Fax: (916) 781-8125  
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Mr. Jim Nyarady,  
Manager Strategic Evaluation Section,  
Stationary Source Division  
Air Resources Board  
2020 L Street, P.O. Box 2815  
Sacramento, CA 95812

**Subject: Suggested Control Measure for Architectural Coatings**

Dear Mr. Nyarady:

Thank you very much for your e-mail dated June 1999. Although the information you provided is clear, I would like to point out to you, but perhaps unnecessarily, the final ruling of the EPA, with regard to the necessity of a separate category for curing and sealing compounds, allowing a VOC limit of 700 g/l for this category.

I am sending you a copy of this document; the relevant text starts on page 72.

The arguments with regard to low temperature can also be made for a high temperature environment, if not even stronger here in California with our relatively low humidity

9-1

As you may know, the compressive strength of concrete is usually tested at 28 days. In warm and dry weather, one can find considerably lower strength in the same concrete mix design when this concrete is cured with a curing compound with a VOC limit of 350 g/l as opposed to using a curing and sealing compound with a VOC limit of 700 g/l. This difference can have an immediate and long-term effect on the quality and durability of the structure.

This occurs because concrete needs moisture to properly gain strength.

Consider the moisture loss of these two different classes.

Curing compounds - 0.055 g/cm<sup>2</sup> at 200 ft. per gallon.

Curing and sealing compounds (30% solids, solvent based material, with a VOC limit off 625 g/l - 0.030 g/cm<sup>2</sup> at 300 ft. per gallon.

A huge difference in performance!

Mr. Jim Nyarady  
Air Resources Board

July 7, 1999  
Page 2 of 2

Good curing is of vital importance to the quality of the concrete. The effects of poor curing, or using sub-standard materials can cause rapid wear on concrete surfaces, especially those surfaces subjected to hard rubber and steel wheels. Curing affects primarily the concrete in the cover (top 1 ½ - 2") to the reinforcement, and by definition, this is the concrete that protects the reinforcement from corrosion by the ingress of aggressive agents.

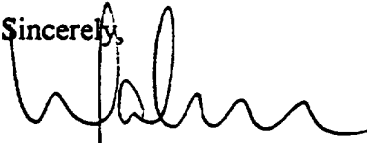
9-1

Also, most commercial projects desire a final surface that is more durable and attractive than can be achieved with lower solids materials. Both ASTM and at least two federal agencies recognize the need for curing and sealing compounds.

If you consider the re-coating requirements with a lower solids material, you may conclude that substantially more VOC's will be released than with a one-time application of a higher solids material from the curing and sealing category.

I hope that this information will be considered in your deliberations and that a VOC limit of 700 g/l can be universally adopted in California as well. Thank you very much for your attention in this matter.

Sincerely,



William F. (Pim) VanSisseren

P.S. Please add us to your mailing

Encl: 1

6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 59

[AD-FRL-6149-7]

RIN 2060-AE55

National Volatile Organic Compound Emission  
Standards for Architectural Coatings

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action promulgates national volatile organic compound (VOC) emission standards for architectural coatings pursuant to section 183(e) of the Clean Air Act (Act). This final rule is based on the Administrator's determination that VOC emissions from the use of architectural coatings have the potential to cause or contribute to ozone levels that violate the national ambient air quality standards (NAAQS) for ozone. Ozone is a major component of smog which causes negative health and environmental impacts when present in high concentrations at ground level. The final rule is estimated to reduce VOC emissions by 103,000 megagrams per year (Mg/yr) (113,500 tons per year [tpy]) by requiring manufacturers and importers to limit the VOC content of architectural coatings.

EFFECTIVE DATE: The effective date is [insert date of publication in the FEDERAL REGISTER]. The incorporation by reference of certain publications listed in the regulation

EPA has retained the VOC content limit of 250 g/l for roof coatings in the final rule.

Concrete curing compounds. Several commenters commented on the proposed VOC content limit of 350 g/l for concrete curing compounds, which are used predominantly in highway construction. Seven commenters stated that the proposed limit for concrete curing compounds is achievable based on existing technology, and one of these commenters maintained that the limit could be lowered to 300 g/l. On the other hand, one commenter took issue with the achievability and performance at the proposed limit of 350 g/l. The latter commenter suggested a VOC content limit of 625 g/l for this category, arguing that the proposed limit would eliminate most concrete curing membranes from the market, and that many companies do not sell curing compounds in States that have the 350 g/l limit.

In addition to consideration of these comments, the EPA reviewed the VOC content limits for this category in State rules. Several States, including Arizona, California, Massachusetts, New Jersey, and New York have had a VOC content limit of 350 g/l for concrete curing compounds for several years. The availability of compliant products in these States suggests that the limits are achievable, notwithstanding that not all manufacturers have chosen to market in those States. Based on the information provided

by the commenters in favor of the proposed limits and upon the existing State rules, the EPA has concluded that the proposed VOC content limit of 350 g/l for concrete curing compounds is technologically achievable and has retained this limit in the final rule.

Graphic arts coatings. Two commenters indicated concern about the performance of shop-applied graphic arts coatings at the proposed VOC content limit of 500 g/l. One commenter's specific concerns with coatings at this level included difficulty in achieving variation in gloss levels, variation in the required drying times in the drying room (implying shop-applied coatings), need for greater application amounts, and higher costs. Graphic arts coatings recommended by the manufacturer solely for shop applications are not required to meet the 500 g/l VOC content limit. As discussed earlier, the EPA has revised the definition of architectural coating to clarify that coatings recommended by the manufacturer solely for shop application are not subject to the rule. In addition, the definition of graphic arts coatings has been modified by removing the reference to in-shop coatings, and a definition of "shop application" has been added to the rule.

Based on a review of the 1990 VOC emission inventory survey and State architectural coating rules, the EPA

argued that multipurpose waterproofing sealers at 400 g/l do not meet minimum performance criteria for clear waterproofing sealers (that is, 60-percent water repellency for wood and 1 percent or less water absorption for brick). The representatives stated that 400 g/l products are high-solids products that may leave an oily residue or cause darkening of the surfaces to which they are applied and, thus, product performance may not meet industry standards. Combining clear and opaque waterproofing treatment sealers into one category is consistent with all existing State rules, which do not divide the category into clear and opaque waterproofing sealers and treatments. The State architectural coating VOC content limits for waterproofing sealers and treatments are either 400 g/l (for example, Arizona and California) or 600 g/l (Massachusetts, New Jersey, and New York).

E. Addition of New Coating Categories

The EPA received requests to establish 20 new coating categories in the final rule. In response to these comments, the EPA has established seven new categories: (1) calcimine recoaters; (2) concrete surface retarders; (3) concrete curing and sealing compounds; (4) conversion varnishes; (5) zone markings; (6) faux finishing/glazing; and (7) stain controllers. The EPA also evaluated requests, but did not establish new categories, for the following

coatings: (1) adhesion promoters; (2) asbestos and lead-based paint encapsulation; (3) concrete/masonry conditioners; (4) porcelain repair coatings; (5) marine/architectural coatings; (6) alkali-resistant primers; (7) tung oil finishes; (8) lacquer stains; (9) elastomeric high performance industrial finishes; (10) low solids coatings; (11) oil-modified urethanes; (12) thermoplastic (treatment) sealers; and (13) zinc-rich coatings. In general, new categories were not established for these coatings because the EPA determined that it is technologically and economically feasible for coating manufacturers and importers to achieve compliance with the rule. Further discussion of the rationale for the EPA's decisions on the new categories is contained in section 2.2.4.2 of the Architectural Coatings BID referenced under the ADDRESSES section of this preamble.

In general, the EPA considered creation of new categories if commenters submitted information supporting higher VOC content limits for such products than the otherwise applicable limits. The EPA considered the data submitted by commenters and obtained all reasonably available additional data to evaluate these requests. In cases where the EPA concluded that the proposed emission limits were not achievable, the EPA established a separate

category with an appropriate emission limit. The following is a discussion of the rationale for each of the new coating categories and its VOC content limit.

Calcimine recoaters. Under the proposed standards, calcimine recoaters would have been subject to the VOC content limit for interior flat coatings (250 g/l). However, several commenters stated that calcimine recoaters have a higher VOC content of 475 g/l, cannot be reformulated, are low-volume coatings, and serve a unique function of recoating water soluble calcimine paints. These paints are used in Victorian and Early American homes, especially on ceilings. Due to their low density, calcimine recoaters do not disbond the existing calcimine ceiling coatings, as conventional (250 g/l VOC) high-solids flat alkyd paints would tend to do. If a calcimine recoater is not used, the only alternative is to remove the existing coating, which is labor-intensive and expensive. Because these low-volume coatings reportedly cannot be reformulated, their composition is unique, and there is no substitute for these products, the EPA has added a separate category for calcimine recoater products to the rule with a VOC content limit of 475 g/l.

Concrete curing and sealing compounds. Under the proposed rule, these coatings would be subject to the 350 g/l VOC content limit for concrete curing compounds.



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However, commenters presented information not previously considered by the EPA demonstrating that compounds designed for curing and sealing, as opposed to those designed for curing only, have different technical specifications that make it difficult to achieve the 350 g/l level. Concrete curing and sealing compounds function as longer term sealers that provide protection, aesthetic benefits, and durability in addition to curing. Commenters pointed out that there are separate American Society for Testing and Materials (ASTM) methods available for each of these categories and that ASTM Committee experts and at least two government agencies consider them distinct categories with different performance requirements.

Through follow-up phone calls with several concrete curing and sealing coating manufacturers, the EPA confirmed that concrete curing and sealing products are typically sold at levels much higher than 350 g/l. While waterborne products below 350 g/l are available, some industry representatives cited drawbacks such as poor low-temperature performance and stability. Since these products must often be used in low-temperature environments, the EPA agrees that the VOC content limit should reflect this usage. Therefore, the final rule includes a new category for concrete curing and sealing compounds. Based on an analysis of VOC content

and sales data for these products, the EPA has established the VOC content limit at 700 g/l.

Concrete surface retarders. Concrete surface retarders do not fall within any of the proposed categories except the general category for interior flat coatings with a VOC content limit of 250 g/l. These products are generally used in a manufacturing setting at a precast facility, but a small volume of products are field-applied. Commenters argued that these products cannot meet the 250 g/l level and, furthermore, that they are not coatings and should not be subject to the rule. However, they requested a VOC content limit of 780 g/l if the EPA regulated these products.

The EPA has concluded that concrete surface retarders meet the rule's definition of a "coating." Concrete surface retarders that are recommended by the manufacturer for use in the field at job sites are, therefore, subject to the rule. When retarders are recommended by the manufacturer solely for use in a manufacturing setting, such as at a precast facility, which is the typical situation, they are not subject to the rule. The EPA determined that concrete surface retarders that are used in the field at the actual job location are specialized, low-volume coatings used in limited circumstances, and there is no lower VOC content substitute for the function of these products. Therefore,

the EPA has included a separate category for these products in the final rule, with a VOC content limit of 780 g/l as requested by the commenters.

Zone marking coatings. Under the proposed rule, zone marking coatings were subject to the 150 g/l VOC content limit for traffic marking coatings. Zone marking coatings are those used to mark surfaces such as parking lots, driveways, sidewalks, and airport runways; they are generally applied by small commercial applicators. In contrast, traffic marking coatings are applied to streets and highways and are usually applied by large contractors or State Departments of Transportation. The commenters noted two issues associated with meeting the 150 g/l content limit for zone marking coatings. First, the 150 g/l content limit could only be met with waterborne coatings, which require different application equipment than solventborne coatings. Small applicators would be disproportionately impacted by the cost of acquiring the new equipment that is compatible with waterborne zone marking coatings. Secondly, the commenters asserted that waterborne zone marking coatings do not dry or cure properly during high humidity or low temperatures, conditions under which they must sometimes be applied.

After consideration of these comments, the EPA has added a separate category for zone marking coatings and has



**The Valspar Corporation**

**1101 Third Street South**

**Minneapolis, MN 55415**

**612-332-7371**

July 22, 1999

Mr. Jim Nyarady  
Manager, Strategy Evaluation Section  
Air Resources Board  
2020 L Street  
Sacramento California 95812

Dear Mr. Nyarady:

Subject: Comments Regarding the June 10 SCM for Architectural Coatings

I am writing to express my concern about the reductions in Volatile Organic Content limits for architectural and industrial maintenance coatings under the Suggested Control Measure dated June 10, 1999. My company manufactures many of the coatings that are at issue.

Based on Valspar's product formulating versus product performance experience developed over the past 193 years, I can say that the proposed limits will likely eliminate a number of important coatings which protect homes and commercial buildings in the regulated districts of California.

Coatings are designed differently for a wide variety of substrates and performance expectations. Contrary to the opinion heard frequently from non-industry people that "paint is paint", coatings are developed differently for application over different surfaces, for different use conditions and different weather or environments. Unique chemistries are used in developing binders for these various coatings. The amounts and types of solvents used depend on application conditions, the length of drying time allowed and the extremes which may be encountered in temperature or humidity. Some coatings, because of the types of binders and application characteristics necessary for a particular application, require the use of higher levels of solvent than others. It may not be possible to develop a low VOC or waterborne version of a particular coating that works.

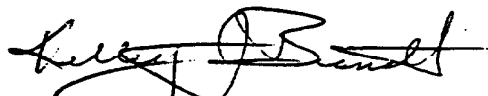
- 10-2 The VOC level of 100 g/L proposed for Flat Coatings in 2001 may allow the sales of medium quality flat latex wall paints, but consumers will not be allowed to purchase high quality, performing flats that will stand up to repeated washings and will have excellent application and freeze-thaw stability characteristics. The proposed 2008 limit of 50 g/L will make this possibility even less likely. Freeze-thaw may not be important in certain sections of California, but it is important in the northern states, whose regulators are keeping close watch on what happens in California. That implication is of much concern to us and much of the coatings industry.
- 10-3 The proposed non-flat limits of 150 g/L and 50 g/L in 2002 and 2006 have similar concerns associated with them. In addition to freeze-thaw, application and film durability issues, there is the concern of poor film formation at lower temperatures. At temperatures between 45 and 60, non-flat latex products will not form a complete, uniform film unless the appropriate type and level of coalescing agent (sometimes called cosolvent) is used. At 50 g/L, especially, this becomes a very large concern.
- 10-4 We encourage the CARB staff to more thoroughly investigate the effects of VOC reduction on the performance of flats and non-flats before making decisions on the limits.
- 10-5 We think the VOC levels for floor coatings of 100 g/L and 50 g/L for 2002 and 2006 are too low for acceptable floor paints. Our current latex floor paints are higher than 150 g/L, and they are only marginally acceptable for resistance to heavy foot traffic, repeated washings and the ability to retain adhesion properties while wet. They are only available in an eggshell gloss range. Two component low VOC epoxies can be used for floors, but they are not safe for homeowners to use, and they are more expensive and more difficult for homeowners to use. Most floors are too large to enable practical use of the quart exemption for this product type.
- 10-6 The VOC limit for Quick Dry Enamels is proposed at 250 g/L for 2002 and 50 g/L for 2006. We think the VOC for this product type needs to be at least 400 g/L. Waterborne enamels don't dry fast enough, are not high enough in gloss, and don't have enough block resistance to be used in areas where QD Enamels are typically used.
- 10-7 A separate category for Specialty Primers should be established with a VOC limit of 400 g/L. Waterborne primers do not prevent water soluble stains like wood tannins and smoke stains from bleeding through to a waterborne topcoat. High solid solvent borne primers do not dry to recoat quickly enough. The proposed Primers, Sealers, and Undercoaters limits of 200 g/L for 2002 and 100 g/L for 2006 will not allow for the Specialty Primer type. Houses sided with cedar are simply too large to practically use the quart exemption.
- 10-8 Another category for Masonry Conditioners or Sealers should be established with a VOC limit of 550 g/L. This product type can be used to seal "chalky" surfaces including, but not limited to, weathered concrete or chalky, weathered paint surfaces. Waterborne primers simply do not penetrate chalk sufficiently to insure adequate adhesion.

10-9 [ The SCM proposes a VOC limit of 250 g/L for semi-transparent stains in 2002. Waterborne semi-transparent stains open the wood grain and dry too fast, resulting in a splotchy appearance. Quarts of solvent borne high VOC stains are not practical on large jobs. High solids solvent borne stains do not penetrate and dry well enough to perform acceptably.

10-10 [ The limit of 250 VOC waterproofing sealers for wood will essentially require the use of waterborne sealers. The problem with recoating these is that they are formulated to repel water, and therefore a second treatment will not adhere and will peel. Again, quarts of traditional waterproofing sealers are not practical for using on large areas like wood decks.

10-11 [ In closing, we encourage the CARB staff to research the technological possibilities of achieving the proposed limits, with a mind to not only whether products are currently available, but also whether they are available for the wide variety of performance requirements and environmental conditions that may be encountered in the field. The industry is very much concerned with meeting the needs of its customers, and the net result of many of the VOC reductions will be products with lower performance capabilities at a higher price and with a more frequent need for repainting.

Sincerely,



Kelley Brandt  
Director, Regulatory Affairs  
The Valspar Corporation  
h990722h

**SIERRA  
PERFORMANCE  
COATINGS**

July 22, 1999

Via Facsimile

Mr. Jim Nyarady  
Manager  
California Air Resources Board  
Strategy Evaluation Section  
2020 L. Street  
P.O. Box 2815  
Sacramento, CA 95812

Re: Comments to SCM, NOP and Initial Study

Dear Mr. Nyarady:

On behalf of itself, its customers and others affected by the release of solvents from paints and coatings, Sierra Performance Coatings, Inc., a California corporation that offers a full line of high performance, zero-VOC coatings, respectfully submits the following comments on the California Air Resources Board's (ARB) SCM, NOP, and Initial Study for architectural coatings.

11-1 For the reasons that follow below, ARB's proposed rule for industrial maintenance coatings: (i) sets VOC limits that, at 250 g/l, are too high; and (ii) makes the effective date, currently proposed for July 1, 2002, too late. However obscured by certain industry players, the basic reality of the paint and coatings industry is that the necessary raw materials to make high performance, ultra-low products are already in the market; and a number of paint companies, including Sierra Performance Coatings, are already in the market with ultra-low VOC coatings whose performance is superior to existing solvent-borne products. Accordingly, the ARB should lower the VOC limits for industrial maintenance coatings to 100 g/l and should implement that standard as of January 1, 2001.

♦ SAFER INDUSTRIAL FINISHES™ ♦ SAFER INDUSTRIAL FINISHES™ ♦

**Sierra Performance Coatings, Inc.**

330 Primrose Road, Suite 502 ■ Burlingame, California 94010 ■ Phone: 650-548-5188 ■ Fax: 650-548-5373

 Printed on Recycled Paper

I. THE PROPOSED RULE DOES NOT EMPLOY THE BEST AVAILABLE CONTROLS.

The proposed rule fails to adopt the "best available controls" and therefore the ARB, as the implementing agency, would violate its duty under the federal Clean Air Act if the proposed rule were implemented.

11-2

Section 183 (e) of the Clean Air Act requires the Environmental Protection Agency to regulate consumer and commercial products using "best available controls" ("BAC"). 42 U.S.C. § 7511b(e) (3) (A). The Clean Air Act defines BAC to require "the degree of emissions reduction the Administrator determines, on the basis of technological and economic feasibility, health, environmental, and energy impacts, is achievable through the application of the most effective equipment, measures, processes . . . including chemical re-formulation or product substitution." 42 U.S.C. § 7511b(e) (1) (A). According to the EPA, BAC is a "system of regulation that encourages product reformulation to meet VOC content limits" in light of the fact that "pollution prevention is the most effective means of achieving VOC emissions reductions." 42 U.S.C. § 7511b(e) (3) (A) (Preamble).

The practical problems with the proposed rule are that there are in fact high performance paints and coatings in the market today that contain significantly lower VOC content than the limits proposed by the ARB; and there are commercially available raw materials to produce industrial maintenance coatings at substantially lower levels than proposed:

11-3

1. Despite its flaws, the preliminary Phase II Assessment Study commissioned by the South Coast Air Quality Management District indicates that low-VOC products perform generally just as well as high-VOC products and, in fact, outperform them in terms of brushing and sag resistance, rust resistance, and mar resistance. The performance characteristics of low-VOC products show they are technologically feasible as currently designed.

11-4

2. High-performance, low-VOC paint products are commercially available. A wide range of companies - such as Sierra, Sherwin-Williams, Ameron and Carboline - sell high-performance, low-VOC epoxy, urethane, and acrylic products. (See the attached product profile sheets.) All are bread-



and-butter products with under 250 g/l VOC content that perform just as well or better than solvent-borne products with higher VOC contents.

11-4 3. There have been tremendous advances in raw materials technology over the last five years, so that low-VOC resins and curing agents are now common. Shell, Air Products, Rohm & Haas, Vianova, Hoechst, Engineered Polymers Solutions and Specialty Polymers all make state-of-the-art, low-VOC waterborne acrylic, epoxy and polyurethane resins and curing agents that perform as well or better than solvent-borne systems for industrial maintenance coatings. (See the attached product profile sheets.) Shell's epoxy technology, for example, may be formulated into sealers, primers, and low to high sheen topcoats for various industrial maintenance and specialty architectural applications with very strong adhesion, humidity resistance, and corrosion resistance properties (see attached product data sheet). Indeed, as long ago as 1994, the Shell Development Company published an article stating that state-of-the-art materials as of that time allow VOC's for metal formulations to be reduced from the 480 g/l for the traditional solvent-based systems to the range of 120-240 g/l.<sup>1</sup> The article concludes that "most significantly, the advances in waterborne epoxy technology have afforded significant VOC reductions along with the necessary corrosion and humidity resistance for coatings that protect metallic substrates. Whereas the prior generations of waterborne epoxy systems have found widespread use primarily on masonry substrates, the latest developments have allowed for their expansion into new applications on metal."<sup>2</sup>

## II. A RULE OF 100 G/L VOC'S SHOULD BE ADOPTED.

11-5 The widespread commercial availability of high-performance, zero-VOC coatings and raw materials -- let alone low-VOC products under 100 g/l -- demonstrate that a 100 g/l limit is technologically and commercially feasible. And, with the necessary raw materials so widely commercially available, low-VOC paints and coatings can be produced and/or re-formulated easily and efficiently by any paint companies. Indeed, every raw material supplier provides starting formulae for making paint using their products, much the way a flour company provides recipes for cakes.

<sup>1</sup> "An Overview of Ambient-Cure, Waterborne Epoxy Resin Coating Technology," by Ernest C. Galgoci, Shell Development Company, 2147-94.

<sup>2</sup> Id. at page 1.

6 1. Preliminary results of the SCAQMD Phase II Assessment Study that compare the performance of zero-VOC, low-VOC, and high-VOC products show that zero-VOC products perform best overall. Zero-VOC products display superior properties as to leveling, wet and dry film, blistering and filiform corrosion resistance, taber abrasion, and adhesion to substrates whereas high-VOC products rate highest only on film appearance and flexibility.

2. SQAQMD identified some 55 commercially available high-performance industrial maintenance coatings at 100 g/l VOC content or lower appropriate for virtually every conceivable use and application. 50 of the 55 high-performance industrial maintenance coatings identified are zero-VOC. Zero-VOC products are proven as technologically and commercially available.

11-7 Sierra Performance Coatings' product line is a case in point. Sierra has a full-line of 100% epoxy zero-VOC paints and coatings, including concrete floor enamels, industrial DTM metal enamels, and industrial metal primers. Sierra also sells a line of epoxy-acrylic wall and trim finishes and polyurethane DTM metal enamels. As the attached product profile sheets attest, Sierra's products perform at equal or superior levels of similar high-VOC products and, in particular, display superior dry times and adhesion. Sierra's products are widely commercially available with a significant presence in the Western United States. Customers include a national car manufacturer/dealer that painted concrete floor service bays with a non-slip coating; the U.S.S. Hornet, which painted all surfaces of the 300 yard aircraft carrier inside and out with zero-VOC products to encapsulate and protect against rust; a large OEM company which used a DTM on metal frames to achieve high salt spray and impact resistance; and a major fresh food packager that coated steel, masonry, and wall board in a highly sanitary, high-moisture, chilled packaging facility. In every one of these cases, solvent-borne products performed worse than Sierra's zero-VOC coatings.

11-8 3. As a final matter, Sierra strongly objects to the use of an averaging provision as an alternative in the draft program EIR. This provision is a loophole that strangles the entire rule. It has no basis under the Clean Air Act and it has no practical hope of being workable. There is great potential for circumvention of the VOC standards, which could possibly render any limits pointless.

### III. THE FAILURE TO ADOPT THE BEST AVAILABLE CONTROLS WILL CAUSE SERIOUS ADVERSE HEALTH EFFECTS.

VOCs are the main component in forming ground level ozone.<sup>3</sup> Exposure to ground level ozone can damage lung tissue and cause serious respiratory illness.<sup>4</sup>

According to the SCAQMD report on health effects of ozone, "individuals exercising outdoors, children and people with preexisting lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible sub-groups for ozone effects. Short-term exposures (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported.

11-9

Ozone exposure under exercising conditions is known to increase the severity of the above mentioned observed responses. Similarly, animal studies suggest that exposures to a combination of pollutants that include ozone are more toxic than exposure to ozone alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes."<sup>5</sup>

Adverse health effects are even more pronounced for workers in the paint industry who are exposed to high-VOC solvents, even at low levels, according to several studies.

11-10

One 1997 report reviewed a range of occupational studies of paint workers and recommended a reduction of solvent limit values due to a correlation between solvent exposures and neuropsychiatric disorders, mental symptoms, and impaired neurobehavioral performance.<sup>6</sup> A 1995 study found that paint manufacturers exposed to solvents showed diminished memory, reaction time, manual dexterity, and

<sup>3</sup> EPA Fact Sheet, Final Air Regulation for Architectural Coatings, August 14, 1993.

<sup>4</sup> Id.

<sup>5</sup> South Coast Air Quality Management District, 1997 Air Quality Management Plan, Chapter 2, Air Quality and Health Effects.

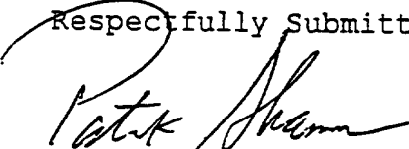
<sup>6</sup> Mikkelsen, S., "Epidemiological Update on Solvent Neurotoxicity," 1997 Environmental Research, Vol. 73, Nos. 1/2, pages 101-112.

10 olfaction.<sup>7</sup> Additionally, two other studies have concluded that exposure to solvents in the painting industry is associated with adverse effects on the central nervous system such as forgetfulness, lassitude, disorientation, and dysphoria.<sup>8</sup>

#### CONCLUSION

11-11 The proposed rule fails to adopt the "best available controls" and is, therefore, inconsistent with ARB's duty under the Clean Air Act. Current feasible technology supports VOC limits much more stringent than those proposed by the ARB. Lower limits are essential both to help non-attainment areas reach their clean air goals and to protect the public's health. The public should not be required to continue to be exposed to harmful emissions from paint formulations when cleaner alternatives are currently available. The ARB -- responsible for clean air in California -- must under the Clean Air Act take a lead role in requiring cleaner and safer paints and coatings. The ARB should lower the VOC limits for industrial maintenance coatings to 100 g/l and should implement the rule earlier as of January 1, 2001.

Respectfully Submitted,

  
Patrick K. Shannon  
General Counsel

(attachments to follow via regular mail)

<sup>7</sup> Bolla, K.; Schwartz, B.S.; Stewart, W.; Rigani, J.; Agnew, J.; Ford, D.P., "Comparison of Neurobehavioral Function in Workers Exposed to a Mixture of Organic and Inorganic Lead and in Workers Exposed to Solvents," 1995-02 American Journal of Industrial Medicine, Vol. 27, No. 2, pages 231-246.

<sup>8</sup> Baker, E., et al., "Neurobehavioral Effects of Solvents in Construction Painters," 1988 Journal of Occupational Medicine, Vol. 30, No. 2, pages 116-123. See also Olson, A., "Effects of Organic Solvents on Behavioral Performance of Workers in the Paint Industry," 1982 Neurobehavioral Toxicology and Teratology, Vol. 4, No. 6, pages 703-708.

**Sierra Performance Coatings, Inc.  
Comments to CARB SCM, NOP, Initial Study**

**ATTACHMENTS**

1. Sherwin-Williams water based epoxy finish
2. Sherwin-Williams water based epoxy primer
3. Sherwin-Williams water based urethane
4. Sherwin-Williams DTM acrylic coating
5. Sherwin-Williams DTM acrylic primer
6. Ameron Amerlock 400 high-solids epoxy
7. Ameron PSX 700 low-VOC epoxy
8. Carboline cross-linked epoxy 890
9. Carboline cross-linked epoxy 893
10. Carboline acrylic aliphatic polyurethane
11. Carboline modified aluminum epoxy mastic
12. Carboline water-borne acrylic
13. Sierra Performance Coatings product line
14. Shell Epi-Rez low-VOC waterborne resin and curing agent
15. Air Products and Chemicals zero-VOC polyurethane resin
16. Air Products and Chemicals zero-VOC waterborne epoxy resin
17. Specialty Polymers zero-VOC acrylic emulsion
18. Epidemiological Update on Solvent Neurotoxicity
19. Comparison of Neurobehavioral Function in Workers Exposed to Solvents
20. Neurobehavioral Effects of Solvents in Construction Painters
21. Effects of Organic Solvents on Behavioral Performance of Workers in the Paint Industry

# Flame Control

COATINGS, INC.

P.O. Box 786, 4120 Hyde Park Blvd.  
Niagara Falls, N.Y. 14302 USA  
(716) 282-1399  
FAX: (716) 285-6303

July 12, 1999

Air Resource Board  
2020 "L" Street, P.O. Box 2815  
Sacramento, California 95812

Attention: Mr. Jim Nyarady  
Manager, Strategy Evaluation Section

Reference: California Code of Regulations  
Title 14, 15082(a), 15103 and 15375

Dear Mr. Nyarady:

This letter is in response to the above referenced notice we received, concerning the Air Resources Board's suggested control measure for architectural coatings.

The proposed VOC limits for fire retardant coatings are lower than the fire retardant coating industry can achieve, at the present time. While there are a couple of old coatings that could possibly meet ARB's proposed requirements, they are coatings that were developed back in the 50's, and they have very poor quality, have little or no washability or cleansibility, and their fire retardant qualities are adversely effected (diminished) when exposed to humid conditions.

12-1 As fire retardant coatings are primarily specified and utilized because of their ability to reduce the rate fire will spread over a surface, it is imperative that the fire retardant coatings possess lasting qualities. Needless to say, the use of fire retardant coatings meeting the proposed VOC requirements, but lacking in permanency, would lead to a false sense of security and could have disastrous consequences if fire should strike.

I believe it is also worthy to point out, that while a fire retardant coatings may even be listed by the Underwriters' Laboratories, it does not mean that the coating possesses any degree of permanency. The Underwriters' Laboratories test is primarily concerned with establishing the fire hazard classifications for the coating as applied, and the useful life of these coating materials are not investigated (reference Page 57 of the 1999 Underwriters' Laboratories Building Material Directory; copy of that page herein enclosed).

It is our firm belief, that the proposed VOC limits for fire retardant coatings should be changed as follows;

<u>Fire Retardant</u>	<u>7/1/2001 Proposed VOC limits</u>	<u>Request VOC Limits to be changed to</u>
Pigmented coating	250 g/L	350 g/L
Clear coating	250 g/L	650 g/L

12-1

This increase in the grams/liter (VOC) will serve a two fold purpose;

- 1] It will allow the application of thin film, modern day, fire retardant coatings. These modern day, fire retardant coatings possess the maximum degree of durability, cleansibility, and fire retardant permanency that is obtainable with today's technology.
- 2] It will also allow the use of tested and rated sealers and topcoats, that were originally fire tested with many of the fire retardant coatings, thereby insuring that the finished surface will comply with the applicable California state and local building fire code requirements, both when freshly applied and for years to come.

Another major point of contention, is the wording used in the "Definitions" section, to define fire retardant coatings. This definition as written (reference page 2, section 2.12, Fire Retardant Coatings), is incorrect and MUST be changed. The facts behind this statement are as follows:

12-2

- A) The use of the wording, as it is now written in this definition, would prevent the sale and use of special purpose fire retardant coatings designed and tested for application to surfaces, other than Douglas fir lumber, i.e., cellulose board, acoustical tile, plywood, etc.. It would also restrict the use of special purpose fire retardant coatings, which are tested to comply with other fire code standards, and are applied to such substrates as structural steel, cedar shingles, structural timbers, electrical & communication cables, etc..
- B) The wording "flame spread - index of less than 25" restricts the sale and use of fire retardant coatings, to only those which have been assigned a Class "A" flame spread rating, i.e., flame spread index 0 - 25. As many California building codes also specify the use of Class "B" rated materials, i.e., flame spread index 26 - 75, it would indicate a need to include a broader definition for this category of coatings.

12-2 C) A second point concerning the statement "less than 25, as now written, would mean that rated products having flame spread indexes of 0, 5, 10, 15, and 20 would be the only products classed as fire retardant coatings, but not a product having a flame spread index of 25."

D) The statement "...tested in accordance with ASTM Designation E-84-87..." is very restrictive. The last two numbers, 87, indicate the year in which the last issuance of the standard was published. If it is left worded as is, no fire retardant coatings tested under ASTM E-84-76, E-84-81, E-84-83, E-84-92 or with other revisions or publications of future years, would be allowed to be used.

With the above thoughts in mind, we therefore request that the definition for "Fire Retardant Coatings" be changed to read as follows:

Fire Retardant Coatings: Coatings which are fire tested and rated by an approved laboratory, and are used to bring building and construction materials into compliance with state and local fire building code requirements.

12-3 To give you a little insight as to our company's background and its activities, Flame Control Coatings is a world leader in the production of fire retardant paints, fire retardant varnishes, and fire protective (retardant) mastics. Our products are distributed by, and/or private labeled for, most of the major paint companies in the United States, such as Glidden's ICI Dulux, PPG, Sherwin-Williams, Benjamin Moore, Pratt & Lambert, and the Kelly-Moore Corp.. In addition, we also manufacture and private label our products for many smaller companies, under such well known trade names as Flamort Chemicals, Athey, Best Kote, and Wood-Tek.

We are also a supplier of fire retardant coatings to the General Service Administration. G.S.A.'s fire retardant coatings are manufactured to comply with various federal specifications, among them being Federal Specification TT-P-26C, TT-C-001883, and MIL-C-46081. Coatings meeting these federal specifications are utilized for fire protection of the barracks, aircraft hangers, office buildings, V.A. hospitals, and other federal government owned and leased properties throughout California. Coatings complying with the above specifications do not comply with the proposed 7/1/2001 California VOC requirements. However, they do comply with the current VOC limit.



July 12, 1999

We agree with the need to reduce the unnecessary release of VOC's. However, we do not believe it should take precedence in determining the type and quality of a coating that can be used, when it involves fire retardant coatings that are designed to reduce the spread of flames and save lives.

12-4

Without changes to ARB's proposed 7/1/2001 VOC limits for fire retardant coatings, quality products will no longer be available for sale and use in California. We, like most companies in the coatings industry, have been striving to develop quality, low VOC and water base coatings. However, today's low VOC and water base technology, that has been developed for the production of conventional architectural coatings, still is not suitable for the production of quality fire retardant coatings. Fire retardant coatings must have lasting durability to ensure they are serviceable, and that they retain their fire retardant qualities.

I would like to take this opportunity to thank you for allowing us to review this draft proposal and submit our comments and suggestions.

I, personally, plan on being at the ARB public hearing meeting, scheduled for November 18, 1999 and I would, therefore, request that I be informed as to the exact time and location where this public hearing will take place.

Very truly yours,

FLAME CONTROL COATINGS, INC.

Norman C. Oliver  
President

NCO/bt

Price U.S. \$16.00

# Building Materials 1999

**Contains**  
Listings and Classifications  
in effect as of December 11, 1998

Please read information contained  
in paragraph 2 on page iv

 **Underwriters Laboratories Inc.®**

# Directory

## Cementitious-Cement and Plaster-Mixtures (BLPR)—Continued

**PROSTAR (THAILAND) CO LTD** R16081  
**SAMUTHSAKHON INDUSTRIAL ESTATE 1/105 MOO 2**  
**THASAI MUANG, SAMUTHSAKHON 74000 THAILAND**  
 Cementitious mixture.

Applied to Inorganic Reinforced Cement Board.  
 in a Max Thk of 1/2 in.++.

Flame spreads 0  
 Smoke Developed 0

**PROSTAR CONTRACT SERVICES PTE LTD** R14613  
**6 SUNGEI KADUT ST 2, SINGAPORE 729228**  
**SINGAPORE**  
 Cementitious mixture.

Applied to Inorganic Reinforced Cement Board.  
 in a Max Thk of 1/2 in.++.

Flame spreads 0  
 Smoke Developed 0

**PYROK INC** R10453  
**1750 POWDER SPRINGS RD SW, MARIETTA GA 30064**  
 Types HD, MD, CV27(B) cementitious mixtures.

Applied to Inorganic Reinforced  
 Cement Board

Flame spread 0  
 Smoke developed 0

Types Acoustement 20, 40 cementitious mixtures.

Applied to Inorganic Reinforced  
 Cement Board

Flame spread 0  
 Smoke developed 0

Type LD cementitious mixture.

Applied to Inorganic Reinforced  
 Cement Board

Flame spread 10  
 Smoke developed 0

**RAPID FLOOR SYSTEMS** R16096  
**920 HAMEL RD, HAMEL MN 55340**  
 Cementitious mixture applied to inorganic reinforced cement board and identified as RF.

Classification or Rating

Flame Spread 0  
 Smoke Developed 0

Cementitious mixture applied to inorganic reinforced cement board and identified as RFP.

Classification or Rating

Flame Spread 0  
 Smoke Developed 0

Cementitious mixture applied to inorganic reinforced cement board and identified as RFU.

Classification or Rating

Flame Spread 0  
 Smoke Developed 0

Also Classified in accordance with ASTM E 136-93, "Standard Test Method For The Behavior of Materials in a Vertical Tube Furnace at 750 C".

**SHIN SUNG TRADING CO LTD** R14611  
**DONGWON BLDG 421-5 SHINDANG-DONG CHOONG-KU,**  
**SEOUL KOREA**  
 Cementitious mixture.

Applied to Inorganic Reinforced Cement Board.  
 in a Max Thk of 1/2 in.++.

Flame spreads 0  
 Smoke Developed 0

**SOUTHWEST VERMICULITE CO** R8213  
**5119 EDITH BLVD NE PO BOX 6287, ALBUQUERQUE**  
**NM 87197**

Applied to Inorganic  
 Reinforced Cement Board  
 in a Max Thk of 1/2 in.

	Type 4	Type 5	Type 5GP	Type 5EF	Type 5MD
Flame spread	10	10	10	10	10
Smoke developed	0	0	0	0	0

Applied to Inorganic  
 Reinforced Cement Board  
 in a Max Thk of 1/2 in.

	Type 8GP	Type 9GP	Type 8EF	Type 8MD	Type 9EF	Type 9MD
Flame spread	10	10	10	10	10	10
Smoke developed	0	0	0	0	0	0

## Cementitious-Cement and Plaster-Mixtures (BLPR)—Continued

	Type FP-2	Type 7MP	Type FP-1A	Type TS-40	Type
Flame spread	5	5	5	5	5
Smoke developed	0	0	0	0	0

	Type FP-1B	Type TS-40G	Type 1BX	Type FP-1XR	Type 1XR
Flame spread	5	5	5	5	5
Smoke developed	0	0	0	0	0

**SPECIALTY PRODUCTS INC** R11944  
**1010 DEERE ST, FAIRBANKS AK 99709**  
 Cementitious mixture applied to inorganic reinforced cement board.

Applied to Inorganic Reinforced  
 Cement Board

Flame spread 0  
 Smoke developed 0

**W R GRACE & CO - CONN CONSTRUCTION PRODUCTS** R4339  
**DIV**  
**62 WHITTEMORE AVE, CAMBRIDGE MA 02140**

Cementitious mixtures applied to inorganic reinforced cement board and/or foamed plastic.

FOR SURFACE BURNING CHARACTERISTICS, SEE CLASSIFICATION MARKING OF UNDERWRITERS LABORATORIES INC. ON PRODUCT OR CARTON.

**YUNG CHI PAINT & VARNISH MFG CO LTD** R14635  
**26 YEN HAI 3RD RD, KAOHSIUNG TAIWAN**  
 Types F-1, F-100 cementitious mixtures.

Applied to Inorganic Reinforced Cement Board  
 in a Maximum Thickness of 1/2 in.

Flame spread 5  
 Smoke developed 0

## Coating Materials (BMCZ)

Coating materials intended for application to building surfaces are divided into two categories: (1) Coatings, Fire Retardant, intended for application to interior combustible surfaces (and occasionally interior noncombustible surfaces) for the purpose of reducing the surface burning characteristics, and (2) Coatings, General Purpose, intended for various purposes. The purpose of the classification is to express the degree of surface burning characteristics of the coating.

The flash points (closed cup) of the fire retardant and general purpose coatings (including preliminary and overcoatings) appear in the individual classifications. The publication of the flash point data is not intended to establish a flammability classification of the liquid coatings, but to indicate the flashing characteristics of the liquid coatings under a standard test procedure. Where "no flash" is indicated, the coating has no flash point in the closed cup test.

## Coatings, Fire Retardant (BMOX)

Coating materials are Classified as to their surface burning characteristics as applied to the specific interior surfaces and at the specific coverage rates indicated in the individual Classifications. The flash points (closed cup method) of the coatings are also indicated in the individual Classifications. The toxicity of the products of combustion and other properties have not been investigated.

To be eligible for Classification, the surface coating or coating system must reduce the flame spread of Douglas fir and all other tested interior combustible surfaces (having flame spreads of 100 or greater by test) to which it is applied at least 50 percent or to a flame spread Classification value of 50 or less, whichever is the lesser spread of flame. A coating or coating system may be Classified as applied to other surfaces (having flame spreads of less than 100 by test) after its eligibility as a fire retardant coating or coating system has been established as applied to Douglas fir, with the requirement that the flame spread Classification must not exceed a value of 50 to be eligible for Classification.

The surface burning characteristics are applicable only when the coating is applied at the rates of coverage and to the type or kind of surfaces indicated, when the coating is applied in accordance with the directions supplied with the container, and when the coating is maintained.

The Classifications are confined to the materials themselves and do not pertain to the structures on which the materials are installed.

Typical combustible surfaces indicated in the individual Classifications are Douglas fir, cellulose acoustical tile, cellulose board, and oriented strand board (OSB). The Douglas fir substrates consist of nominal 1 by 4 in. finish, tongue-and-groove flooring. (The flame spread of the uncoated Douglas fir is 70-100).

The cellulose acoustical tile substrates consist of nominal 12- by 12- by 1/2 in. tongue-and-groove "Factory Finish" (starch type) perforated tiles. (The flame spread of the cellulose tile substrates is normally in excess of 150).

## BUILDING MATERIALS (BHWV)

## Coatings, Fire Retardant (BMQX)—Continued

The cellulose board substrates consist of nominal 10- by 48- by 1/2 in. square edge "Factory Finish" (starch type) unperforated boards. (The flame spread of the cellulose board is normally in excess of 75).

The oriented strand board substrates consist of a nominal 3/4 in. thick 24 in. wide by 96 in. long board (The flame spread of the oriented strand board is normally in excess of 150).

Unless otherwise indicated in the individual Classifications, cellulose board and cellulose tile substrates are supported for the tests attached to wood furring strips.

Typical noncombustible surfaces indicated in the individual Classifications are 1/4 in. thick inorganic reinforced cement board (flame spread 0) and gypsum wallboard (flame spread 15).

The useful life of these coating materials has not been investigated; however, it is of paramount importance that the coatings be maintained for continued effectiveness.

Fire retardant coatings may be tinted in the field provided compatible tints are used in a proportion not exceeding 2 oz of tint per gal of coating. Deeper shades may or may not be supplied by the individual manufacturers.

Authorities having jurisdiction should be consulted before application.

The basic standard used to investigate products in this category is UL 723 "Test for Surface Burning Characteristics of Building Materials".

## LOOK FOR CLASSIFICATION MARKING ON PRODUCT

The Classification Marking of Underwriters Laboratories Inc. (shown below) on the product is the only method provided by Underwriters Laboratories Inc. to identify Fire Retardant Coatings which have been produced under its Classification and Follow-Up Service.

UNDERWRITERS LABORATORIES INC.  
CLASSIFIED  
FIRE RETARDANT COATING  
SURFACE BURNING CHARACTERISTICS

—The Classification Marking includes the flame spread and smoke developed values applicable to the product.

The Classification Marking of Underwriters Laboratories Inc. (shown below) on the Preliminary or Over Coating is the only method provided by Underwriters Laboratories Inc. to identify Preliminary or Over Coatings which have been produced under its Classification and Follow-Up Service.

UNDERWRITERS LABORATORIES INC.  
CLASSIFIED  
COATING

TO BE USED WITH (MANUFACTURER'S NAME AND PRODUCT DESIGNATION) FIRE RETARDANT COATING(S) IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS TO PRODUCE FINISHED CLASSIFIED SYSTEMS. FOR RESPECTIVE UL CLASSIFICATIONS, SEE THE FIRE RETARDANT COATING LABEL.

\*PRELIMINARY OR OVER.

ALBI MFG, DIV OF STANCHEM INC R2810  
401 BERLIN ST, EAST BERLIN CT 06023

Fire-Retardant Coating Surface	Type 107A Douglas Fir	Type 107A Douglas Fir	Type 107A Douglas Fir	Type 107A Douglas Fir	Type 107A Douglas Fir
Flame spread	20	15	10	15	15
Smoke developed	0-5	5	5	5	5
Number of preliminary coats	None	None	None	None	None
Rate per coat (Sq ft per gal)	—	—	—	—	—
Number of fire-retardant coats	1	1	2	2	1
Rate per coat (Sq ft per gal)	175	150	200	200	150
Number of overcoats	None	None	None	1*	1*
Rate per coat (Sq ft per gal)	—	—	—	450	450

Flash point of liquid coating:

Fire-retardant coating: Type 107A: Closed cup, 100 F (37.8 C)

Overcoating Type 144: Closed cup: 106 F (41.2 C)

\*Manufacturer's Type 144.

Fire-Retardant Coating Surface	Type 107A Douglas Fir	Type 107A Cellulose Tile
Flame spread	10	15
Smoke developed	5	5-10
Number of preliminary coats	None	None
Rate per coat (Sq ft per gal)	—	—
Number of fire-retardant coats	2	1
Rate per coat (Sq ft per gal)	—	—

## BUILDING MATERIALS (BHWV)

57

## Coatings, Fire Retardant (BMQX)—Continued

Fire-Retardant Coating Surface	Type 107A Douglas Fir	Type 107A Cellulose Tile
Number of overcoats	175	150
Rate per coat (Sq ft per gal)	None	None
Flash point of liquid coating:		
Fire-retardant coating: Type 107A: Closed cup, 100 F (37.8 C)		
Fire-Retardant Coating Surface	Type ALBI COTE FRL Douglas Fir	Type ALBI COTE FRL Douglas Fir
Flame spread	25	20
Smoke developed	15	30
Number of preliminary coats		
Rate per coat (Sq ft per gal)	None	None
Number of fire-retardant coats	1	1
Rate per coat (Sq ft per gal)	175	150
Number of overcoats	None	1*
Rate per coat (Sq ft per gal)	—	500

\*Overcoating: ALBI-COTE TC.

AMERICAN UNI-TECH INC R14668  
SUITE 240 19100 VON KARMAN, IRVINE CA 92715

Fire Retardant Coating Surface	Fire Screen Douglas Fir
Flame Spread	35
Smoke Developed	60
Number of preliminary coats	None
Rate per coat (sq ft per gal)	—
Number of fire retardant coats	1
Rate per coat (sq ft per gal)	200
Number of over coats	None
Rate per coat (sq ft per gal)	—
Flash point of liquid coating:	
Fire-retardant coating Closed cup no flash to boiling.	

AMERICAN VAMAG CO INC R4787  
1061 LINDEN AVE, RIDGEFIELD NJ 07657

Surface	Type DS-II Douglas Fir	Type DS-II Cellulose Board
Flame spread	10	10
Smoke developed	30	20
Number of preliminary coats	None	None
Rate per coat (Sq ft per gal)	—	—
Number of fire-retardant coats	2	2
Rate per coat (Sq ft per gal)	200	200
Number of overcoats	None	None
Rate per coat (Sq ft per gal)	—	—
Flash point of liquid coating:		
Fire retardant coating: Closed cup, no flash		

Surface	Type PR-White Douglas Fir	Type PR-White Cellulose Tile
Flame spread	5	5
Smoke developed	0	0
Number of preliminary coats	None	None
Rate per coat (Sq ft per gal)	—	—
Number of fire-retardant coats	2	2
Rate per coat (Sq ft per gal)	—	—
Number of overcoats	—	—
Rate per coat (Sq ft per gal)	—	—
Flash point of liquid coating:		
Fire retardant coating: Closed cup, no flash		

LOOK FOR THE UL MARK ON PRODUCT

**Wm. Zinsser & Co., Inc.**

173 Belmont Drive • Somerset, NJ 08875-1285 • 732-469-8100 • FAX 732-469-4539

*Celebrating 150 Years*

July 21, 1999

Jim Nyarady  
Manager, Strategy Evaluation Section  
Stationary Source Division  
Air Resources Board  
2020 L Street  
P.O. Box 2815  
Sacramento, CA 95812

Subject: Comments to Suggested Control Measure for Architectural Coating

Dear Mr. Nyarady:

William Zinsser & Company, Inc., a shellac and specialty primer manufacturer has a 150-year reputation of producing quality products for both professional and "do-it-yourself" customers. Zinsser is the world's largest manufacturer of shellac and as a result, we believe posses the most knowledge in this area. We are strongly opposed to the change in definition of shellac as proposed in the recent draft document, CARB Suggested Control Measure for Architectural Coatings, and think shellac should remain as a separate and distinct category.

"LAC is the resinous secretion of the lac insect, parasitic on certain trees, principally in Bihar, Madhya Pradesh and other Indian states; also in Burma and Thailand. It is cultivated in these areas because of the commercial value of the lac resin.

SHELLAC is the refined form of lac. The word, derived from shell-lac, specifically refers to refined lac in thin flakes, the form in which it is most commonly marketed; but in general parlance the word shellac includes all forms of refined lac." \*

Lac is the only known resin of animal origin (Merck Index and Kirk-Othmer Encyclopedia of Chemical Technology) and has been known in India and China for several thousand years. There are many other natural resins, including rosin (the residue left after distilling off the oils from oleoresin obtained from pine trees) and copal (a resin from fossil extrusions). However, shellac cannot be placed in the same classification with these resins because of its unique animal origin, acceptance as a safe, non-toxic protective coating for food, candy, fruit, pharmaceutical pills and children's toys, as well as quick-drying and stain sealing properties. Indeed, shellac even has its own distinct chemical abstracts (CAS) number, 9000-59-3.

Jim Nyarady, Manager  
Strategy Evaluation Section  
CARB, Stationary Source Division  
July 21, 1999  
Page 2 of 2

13a-1

We believe that allowing other natural resins in this category would only lead to confusion in the industry and create a loophole for manufacturers to abuse this VOC category for architectural coatings. If the agency feels that other natural resins need to be included in this control measure, then a separate category should be added for this coating. Please consider these comments before finalizing your ruling.

\* Excerpted from Shellac Handbook (Angelo Brothers Limited, 1965) enclosed with this letter.

Sincerely,



Michael L. Jurist  
Director of Manufacturing

Enclosure

**Wm. Zinsser & Co., Inc.**

173 Belmont Drive • Somerset, NJ 08875-1285 • 732-469-8100 • FAX 732-469-4539

*Celebrating 150 Years*



July 12, 1999

Mr. James Nyarady  
Manager, Strategy Evaluation Section  
Air Resources Board  
2020L Street Box 2815  
Sacramento, CA 95812

Dear Mr. Nyarady:

13b-1 In response to Dean Simeroth's letter of May 19, 1999 and the Draft regulations that the Air Resources Board is proposing, I would like to comment on the proposed changes. I object to the proposed change in the definition of Shellac which would allow for other natural resins other than the resinous secretions of the lac beetle (*Laccifer Lacca*) to be placed in the category. Shellac is a unique natural resin that has been used as a protective coating for centuries, its exact start being lost in time. The term **Shellac** has always referred to a definite material (it has its own unique CAS # 9000-59-3) and the name denotes certain properties inherent to the product such as; quick drying and stain sealing properties. Allowing other natural resins in this class which do not have these characteristics can confuse and deceive the consumer into thinking they are getting a particular product and are in fact getting something quite different. It is important that the definition of "shellac" remain constant as it has throughout history.

The amount of Shellac products produced each year is limited by the fact that it is relatively expensive and the limited availability of the secretions of the lac beetle. Allowing other natural resins into this definition could greatly expand one the highest VOC categories. This can only lead to abuse. Why add a loophole to the VOC regulations?

As a suggestion, you may want to add a distinct Coating Category for "Other Naturally Occurring Resins" rather than changing the definition of a thousand years old natural resin. Why add confusion on the part of the consumer?

I strongly urge you to reconsider not changing the definition of the "Shellac Coatings Category." If you still feel there is a need to have a category for other natural resins, make it a separate one.

If you have any questions or wish to discuss this in further detail, please don't hesitate to call me at the above listed number.

Sincerely,

Arthur B. Paltz, Director  
Zinsser Group Environmental Services



July 9, 1999

Mr. Jim Nyarady, Manager Strategy Evaluation Section  
Stationary Source Div.  
Air Resources Board  
2020 L Street  
P.O. Box 2815  
Sacramento, CA 95812

Dear Nyarady:

In response to the recent letter from Mr. Peter D. Venturini, I passionately submit the following comments for consideration as CARB considers modifications to the suggested control measures for architectural coatings.

As the world's largest producer and most expert company in the "**SHELLAC**" industry, we want to implore CARB not to modify the definition of shellac in the current or future versions of air control measures as is currently being proposed.

First, the Federal EPA has allowed the category of shellac to be reinterpreted, to become confused and to become a "loophole" for manufacturer's wishing to violate the spirit of the original CARB regulations put forth many years ago. During CARB's earliest efforts to exempt shellac-based products from stringent regulations, your group wisely chose to limit the shellac definition to the resinous secretion of the lac bug. By so limiting this category, CARB effectively limited the opportunity for this category to be a loophole through which a broader list of products and a longer list of applications would be possible. CARB should maintain the more restricted shellac definition which, in effect, solves the fundamental problem by allowing a truly effective unique natural product to be available for use in its special applications without extending the category to include other natural resins soluble in alcohol. These non-"shellac" resins are more readily available and are available at lower cost which in effect gives the marketplace additional opportunities to create allowed VOC generating products. While shellac is readily available to any manufacturer who wishes to formulate with this unique all natural resin, the more restrictive definition achieves all the benefits industry needs and achieves the restricted VOC goals as well.

Secondly, non-shellac natural resins do not perform in the same unique way as shellac and are therefore of no value as VOC allowed alternative. Only shellac seals odors. Only shellac seals in knots. Only shellac seals in tannin bleed and

13c-1



other solvent soluble stains. There is no reason to expand the shellac category to include other resins.

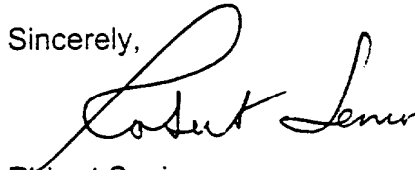
Third, shellac is, by definition, a specific identifiable chemical commodity. By calling any natural resin "shellac", you will confuse the fundamental daily use of the word "shellac". If CARB truly wants to create a category wherein all natural resins that are soluble in alcohol are allowable, then please do not call the category "shellac". We strongly suggest you rename any such category "alcohol soluble natural resin coatings". This is more correct and will prevent substantial confusion in advertising copy, literature and other commonplace references to generally understood industry parlance. Shellac is shellac and the term need not be redefined by CARB or the USEPA.

13c-1

Shellac-based products have only limited application and limited real world need. Already available alternative products, which are much lower in VOC, are available at lower cost and are easier to use thereby making shellac a perfect category for unique status with minimal VOC impact. Shellac is ideal as an odor barrier, as a stain sealer, as a knot sealer, as a child-safe natural finish, as a migrating tannin blocker and as a fast drying bond coat. Shellac-based products are available in multiple sizes including aerosol thereby making this category an ideal vehicle for consumer and professional users to solve real world challenges with a specialty category that has, in total, the reality of generating only modest levels of VOC.

If CARB takes a strong position on this issue, I suspect it will be easier to convince the USEPA that their recent adoption of a modified definition for shellac should be reversed or revisited as well. We sincerely appreciate the leadership that CARB has shown in this area in the past and look forward to wisdom again prevailing in your upcoming revisions.

Sincerely,



Robert Senior  
President

RS/gg



Division of Wm. Zinsser & Co., Inc.  
173 Belmont Drive • Somerset, NJ 08875-1285  
Telephone (732) 469-8100  
FAX (732) 469-4539

July 15, 1999

Mr. Jim Nyarady  
Manager  
Strategy Evaluation Section, Stationary Source Div.  
PO Box 2815  
Sacramento, CA 95812

Dear Mr. Nyarady:

I am writing you today in reference to CCR, Title 14, §§ 15082(a), 15103, and 15375. Specifically, I would like to address the proposed change to the SCM for Architectural Coatings, *Definitions, 2.34, Shellac*.

The old rule specified that, in order to comply with the relatively high VOC levels afforded natural shellac, coatings must be *formulated solely with the resinous secretions of the lac beetle (Laccifer lacca), thinned with alcohol and formulated to dry by evaporation . . . .*

The new proposed rule, *Draft 6/10/99*, alters the definition significantly by expanding the category to include *natural resins . . . soluble in alcohol (including, but not limited to, the resinous secretions of the lac beetle . . .) . . . .*

This change will, in my opinion, result in a number of unintended consequences, all of which will certainly increase the amount of VOC emissions, both near and long term.

Here's why: the new definition will not only allow but probably encourage manufacturers to begin marketing alcohol-based coatings they'll call "shellac," but will in-fact be formulated using natural gum copals or rosin ester resins. It won't be long before the marketplace is flooded with these shellac substitutes.

This is an easily predictable response, as this strategy will be viewed by the industry as a logical, and perfectly legal, method of circumventing the ever more restrictive VOC limits being placed on "Primers, Sealers, and Undercoaters." This new category and these newly allowed "shellac substitute" coatings will be sold and used primarily as either general purpose or quick-dry, stain-blocking, white pigmented primers, sealers, and undercoaters. And they'll be perfectly legal at 550 g/l VOC vs. 350 (current), then 200 (2002), and finally 100 (2006) g/l VOC allowed most oil or alkyd based primers in use now.

Mr. Nyarady  
Page 2 of 4  
July 15, 1999

14-2

The logical question for you to ask at this point: Under the current regulations, with the shellac definition restricted to coatings formulated with pure shellac (Laccifer lacca resin) only, is shellac's share of the overall primer market increasing as a result of the more restrictive VOC controls on other primers?

Good question, and I'm glad you asked. The answer is no. And in the case of Zehrunge, our shellac based products continue to decline as a % of our overall primer sales in California and elsewhere.

But I firmly believe, and think it totally predictable, that if the new shellac definition becomes law, 550 g/l VOC alcohol-based non-shellac primers will begin to displace the more commonly used solvent-based alkyd formulations.

Now the logical question for you to ask is: Why? Why, if the new shellac definition becomes law, will the non-shellac "shellacs" represent a larger % of total primer sales, and VOC emissions, than has been the case by restricting the old definition to pure shellac (Laccifer lacca) resin?

There are two reasons really, and they are directly related:

- Pure shellac formulations exhibit unique characteristics.
- Pure shellac formulations are expensive.

14-3

A few of shellac's unique characteristics include unsurpassed adhesion to difficult surfaces, non-toxic film, the best stain sealer available, very fast drying, pet and smoke odor control, etc. But crude shellac is only available from Thailand and India, requires extensive processing and special handling and storage, and is therefore very expensive.

As a result, pure shellac-based primers are specified and used only when their unique characteristics are worth spending the extra money. Consider this – a gallon of a typical, alkyd-based white primer usually costs the user \$10.00 - \$15.00 per gallon, depending on the brand, where purchased, etc. A gallon of white pigmented shellac will typically cost the user \$20.00 - \$30.00 per gallon, again depending on the brand and where it was purchased. That's a huge difference and the reason that, under the old SCM definition, shellac-based coatings' share of the overall primer market hasn't increased.

For most general purpose priming, a water-based or an inexpensive alkyd-based primer will suffice, and may even be preferable. Only rarely, and for very specific problems, is a pure shellac-based primer worth the additional expense to the end-user.

14-3

But the new "shellac" definition as proposed in the Draft SCM will significantly change the dynamic I have just outlined. That's because the other alcohol soluble resins -- gum copals and rosin esters -- are cheap. These formulations will be inexpensive to manufacture and market, and their new found status and ready availability when the new regs go into effect will, I believe, result in significant additional VOC emissions.

Allowing what amounts to a new category of inexpensive, alcohol-based, high VOC primers into the market by virtue of changing the old definition of shellac represents a huge and significant loophole in the ARB's attempt to decrease the VOC emissions attributable to primers, sealers, and undercoaters.

14-4

Accordingly, I believe the ARB should reconsider the new "shellac" definition contained in the 6/10/99 Draft SCM proposal. Specifically, I think the original wording defining shellac as *coatings formulated solely with the resinous secretions of the lac beetle (Laccifer lacca), thinned with alcohol . . .* should be restored.

14-5

This is obviously a selfish and somewhat self-serving request, based on the fact that Zehrung is in the specialty primer manufacturing business, and that we are one of the few companies that still bothers to make and sell pure shellac-based products. My motive in asking you to reconsider is not as it may first appear, however.

My real concern is not the potential for increased competitive activity. We, after all, can and will introduce an alcohol-based shellac substitute if that's what the market wants. You may recall that years ago Zehrung marketed just such a product, called Z-Lac, and *it was one of our best selling products in CA prior to it's being outlawed by the new VOC regs* that went into effect in the late 80's. Now we'll have to consider re-introducing it.

Anyway, my real concern is that not too long after these new regs take effect, the reporting requirements will reveal that massive (and unexpected?) quantities of 550 g/l VOC primers are being sold. There will then be a move to either restrict the allowable VOC content of alcohol-based primers, or the "shellac" category will be eliminated entirely.

Both of these scenarios are problematic. White pigmented shellac cannot be formulated below 550 g/l VOC, and pure shellac-based products really are unique. Pure shellac coatings shouldn't be outlawed in the future on the basis that the newly created category of non-shellac "shellacs" constitutes a significant source of VOC emissions, directly as a result of what I believe is the unwarranted and unwise decision to change the shellac definition in the new SCM.

Mr. Nyarady  
Page 4 of 4  
July 15, 1999

14-6

Finally, and this has just occurred to me, I am curious as to whether or not counsel for the Board has explored the ramifications of mandating label wording, in this case requiring a category of products be labeled or identified as "shellac," when in fact the products don't have to actually contain any shellac? This may be the equivalent of enacting a law requiring that red wine be labeled "Cabernet" when in reality the wine can be formulated solely with Merlot grapes if the winemaker so chooses. This issue strikes me as a terribly complicating factor in-as-much as I suspect that requiring a manufacturer to label a product as "shellac" when it's really not shellac may potentially violate a host of state and federal labeling laws. I would appreciate understanding the Board's thinking regarding this specific issue.

Thank you in advance for your courtesy in exploring the important issues I have raised in this comment letter, and sharing my concerns with the Board. If I may answer any questions, please feel free to call or e-mail: 323-656-0798 or [dougtobery@msn.com](mailto:dougtobery@msn.com).

Sincerely,

Douglas Tobey

Cc: Bob Senior  
Dick Stevens

7/15/99



6-23-99

**Robert C. Matejka**  
Environmental and Engineering Manager  
Customer Services  
Industrial Finishes

Akzo Nobel Coatings Inc.  
1431 Progress Avenue  
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E-Mail: bob.c.matejka@akzo-nobel.com

coating that is formulated and recommended for application to limited to, decks, porches, and steps, for the purposes of

**Reliance**

A coating formulated and recommended for application to a concrete form to prevent the freshly poured concrete from bonding to the form. The form may consist of wood, metal, or some material other than concrete.

- 2.16 **Graphic Arts Coating or Sign Paint:** A coating formulated and recommended for hand-application by artists using brush or roller techniques to indoor and outdoor signs (excluding structural components) and murals including lettering enamels, poster colors, copy blockers, and bulletin enamels.
- 2.17 **High-Temperature Coating:** A high performance coating formulated, recommended, and used for application to substrates exposed continuously or intermittently to temperatures above 204°C (400°F).
- 2.18 **Industrial Maintenance Coating:** A high performance architectural coating, including primers, sealers, undercoaters, intermediate coats, and topcoats, formulated and recommended for application to substrates exposed to one or more of the following extreme environmental conditions listed in subsections 2.18.1 through 2.18.5 in an industrial, commercial, or institutional setting :
  - 2.18.1 Immersion in water, wastewater, or chemical solutions (aqueous and non-aqueous solutions), or chronic exposure of interior surfaces to moisture condensation;
  - 2.18.2 Acute or chronic exposure to corrosive, caustic or acidic agents, or to chemicals, chemical fumes, or chemical mixtures or solutions;
  - 2.18.3 Repeated exposure to temperatures above 121°C (250°F);
  - 2.18.4 Repeated (frequent) heavy abrasion, including mechanical wear and repeated (frequent) scrubbing with industrial solvents, cleansers, or scouring agents; or
  - 2.18.5 Exterior exposure of metal structures and structural components.
- 2.19 **Lacquer:** A clear or opaque wood coating, including clear lacquer sanding sealers, formulated with cellulosic or synthetic resins to dry by evaporation without chemical reaction and to provide a solid, protective film. Lacquer stains are considered stains, not lacquers.
- 2.20 **Low Solids Coating:** A coating containing 0.12 kilogram or less of solids per liter (1 pound or less of solids per gallon) of coating material and for which at least half of the volatile component is water.
- 2.21 **Magnesite Cement Coating:** A coating formulated and recommended for application to magnesite cement decking to protect the magnesite cement substrate from erosion by water.

15-1

by weight or volume?

- 2.22 **Mastic Texture Coating:** A coating formulated and recommended to cover holes and minor cracks and to conceal surface irregularities, and is applied in a single coat of at least 10 mils (0.010 inch) dry film thickness.
- 2.23 **Metallic Pigmented Coating:** A coating containing at least 48 grams of elemental metallic pigment per liter of coating as applied (0.4 pounds per gallon), excluding zinc.
- 2.24 **Multi-Color Coating:** A coating that is packaged in a single container and exhibits more than one color when applied.
- 2.25 **Nonflat Coating:** A coating that is not defined under any other definition in this rule and that registers a gloss of 15 or greater on an 85-degree meter or 5 or greater on a 60-degree meter according to ASTM Designation D 523-89, Standard Test Method for Specular Gloss (incorporated by reference--see section 5.).
- 2.26 **Pre-treatment Wash Primer:** A primer that contains a minimum of 0.5 percent acid, by weight, that is formulated and recommended for application directly to bare metal surfaces to provide corrosion resistance and to promote adhesion of subsequent topcoats.
- 2.27 **Primer:** A coating formulated and recommended for application to a substrate to provide a firm bond between the substrate and subsequent coats.
- 2.28 **Quick-Dry Enamel:** A nonflat coating that has the following characteristics:
- 2.28.1 Is capable of being applied directly from the container under normal conditions with ambient temperatures between 16 and 27°C (60 and 80°F);
  - 2.28.2 When tested in accordance with ASTM Designation D 1640-83 (Reapproved 1989), Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature (incorporated by reference--see section 5.), sets to touch in 2 hours or less, is tack free in 4 hours or less, and dries hard in 8 hours or less by the mechanical test method; and
  - 2.28.3 Has a dried film gloss of 70 or above on a 60 degree meter.
- 2.29 **Residential Use:** Use in areas where people reside or lodge including, but not limited to, single and multiple family dwellings, condominiums, mobile homes, apartment complexes, motels, and hotels.
- 2.30 **Roof Coating:** A coating formulated and recommended for application to exterior roofs for the primary purpose of preventing penetration of the substrate by water or reflecting heat and reflecting ultraviolet radiation. Metallic pigmented roof coatings which qualify as metallic pigmented coatings shall not be considered to be in this category, but shall be considered to be in the metallic pigmented coatings category.
- 2.31 **Rust Preventative Coating:** A coating formulated and recommended for use in preventing the corrosion of ferrous metal surfaces in residential situations.

Draft 6/10/99

- 2.32 Sanding Sealer: A clear wood coating formulated and recommended for application to bare wood to seal the wood and to provide a coat that can be sanded to create a smooth surface. A sanding sealer that also meets the definition of a lacquer is not included in this category, but is included in the lacquer category.
- 2.33 Sealer: A coating formulated and recommended for application to a substrate for one or more of the following purposes: to prevent subsequent coatings from being absorbed by the substrate; to prevent harm to subsequent coatings by materials in the substrate; to block stains, odors, or efflorescence; to seal fire, smoke, or water damage; or to condition chalky surfaces.
- 2.34 Shellac: A clear or opaque coating formulated with natural resins (except nitrocellulose resins) soluble in alcohol (including, but not limited to, the resinous secretions of the lac beetle, *Lacifer lacca*). Shellacs dry by evaporation without chemical reaction and provide a quick-drying, solid protective film that may be used for blocking stains.
- 2.35 Solicit: To require for use or to specify, by written or oral contract.
- 2.36 Shop Application: A coating is applied to a product or a component of a product in a factory or shop as part of a manufacturing, production, or repairing process (e.g., original equipment manufacturing coatings).
- 2.37 Stain: A coating formulated to change the color of a surface but not conceal the surface. This includes lacquer stains.
- 2.38 Swimming Pool Coating: A coating formulated and recommended to coat the interior of swimming pools and to resist swimming pool chemicals.
- 2.39 Tint Base: A coating to which colorant is added in a paint store or at the site of application to produce a desired color.
- 2.40 Traffic Marking Coating: A coating formulated and recommended for marking and striping streets, highways, or other traffic surfaces including, but not limited to, curbs, berms, driveways, parking lots, sidewalks, and airport runways.
- 2.41 Undercoater: A coating formulated and recommended to provide a smooth surface for subsequent coatings.
- 2.42 Varnish: A clear or semi-transparent coating, excluding lacquers and shellacs, formulated and recommended to provide a durable, solid, protective film. Varnishes may contain small amounts of pigment to color a surface, or to control the final sheen or gloss of the finish.
- 2.43 Volatile Organic Compound (VOC): Any compound of carbon, which may be emitted to the atmosphere during the application of and or subsequent drying or curing of coatings



subject to this rule, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, and excluding the following:

2.43.1 methane;

methylene chloride (dichloromethane);  
1,1,1-trichloroethane (methyl chloroform);  
trichlorofluoromethane (CFC-11);  
dichlorodifluoromethane (CFC-12);  
1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113);  
1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114);  
chloropentafluoroethane (CFC-115);  
chlorodifluoromethane (HCFC-22);  
1,1,1-trifluoro-2,2-dichloroethane (HCFC-123);  
2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124);  
1,1-dichloro-1-fluoroethane (HCFC-141b);  
1-chloro-1,1-difluoroethane (HCFC-142b);  
trifluoromethane (HFC-23);  
pentafluoroethane (HFC-125);  
1,1,2,2-tetrafluoroethane (HFC-134);  
1,1,1,2-tetrafluoroethane (HFC-134a);  
1,1,1-trifluoroethane (HFC-143a);  
1,1-difluoroethane (HFC-152a);  
cyclic, branched, or linear completely methylated siloxanes;  
the following classes of perfluorocarbons:

- (A) cyclic, branched, or linear, completely fluorinated alkanes;
- (B) cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
- (C) cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and
- (D) sulfur-containing perfluorocarbons with no unsaturations and with the sulfur bonds only to carbon and fluorine; and

2.43.2 the following low-reactive organic compounds which have been exempted by the U.S. EPA:

acetone;  
ethane; and  
parachlorobenzotrifluoride (1-chloro-4-trifluoromethyl benzene).

2.44 VOC Content: The weight of VOC per volume of coating, calculated according to the procedures in subsection 5.1.

2.45 Waterproofing Wood Sealer: A coating formulated and recommended for application to a wood substrate for the primary purpose of preventing the penetration of water.

2.46 Waterproofing Concrete/Masonry Sealer: A clear or pigmented coating that is formulated for sealing concrete and masonry to provide resistance against water, alkalis, acids, ultraviolet light, and staining.

15-2

include  
methyl  
acetate



July 15, 1999

Mr. Jim Nyarady, Manager Stationary Source Division  
Air Resources Board  
2020 L Street  
P.O. Box 2815  
Sacramento, CA 95812

Dear Mr. Nyarady:

Re: Comments on the Draft Environmental Impact Report  
and Suggested Control Measures

TruServ Mfg. Manufactures paints and coatings for True Value, ServiStar and Coast to Coast Hardware stores. The proposed draft environmental impact report and the subsequent suggested control measures causes us great concern.

16-1 We understand the need for continued air emissions control in the state, but by doing it in this manner, you may be creating more problems than you solve. As with the South Coast rule, the decision this for rule making is being made on incomplete and inaccurate information. It is critical that more consideration be given this process before its passage.

16-2 Inaccuracies were pointed out in part in the second meeting when the preliminary draft of the VOC Emissions Survey was presented. There were obvious errors made in reporting the VOC content of some of the coatings as discussed at the June 3 meeting, and further reviewed from the draft ingredient data supplied by your office. The values should be reviewed before taking them as fact, especially if some of the VOC limits are being drawn solely from this information.

16-3 In a review of your draft EIR, several inadequacies surface. Most of the alternatives for compliance are unusable. As shown in the July 1, 1999 meeting, almost no manufacturers can use the averaging provision. The low vapor pressure exemption and reactivity have no benefit for the 2002 standards, and will very likely have no benefit in 2006. The seasonal approach would be a logistical nightmare for our members and us.

16-4 It is a fact that paint is used partially for decorative purposes, but more importantly, it is used to protect substrates from dirt, weathering, mildew, and general degradation. It has been said more than once by painting contractors attending these workshops that coatings at the current VOC limits exhibit marginal performance. What will lower VOC's bring? We don't know, because we won't have adequate time to reformulate and test performance characteristics of the reduced VOC products.

16-5

In chapter 2, Section VI, Transportation/Circulation of the draft EIR, you state the draft SCM "will not result in a substantial increase in vehicle trips throughout the state....", but you fail to consider, the makeup of the traffic could very likely be affected. The NTS study showed that low VOC consumer products, such as the category of nonflat paint, are not freeze-thaw stable. It is not an issue within the state, but it is an issue for those manufacturers that have to deliver it to California. This could cause an increase in traffic during the already high ozone periods because these products could only be shipped during three seasons, to avoid potential freezing en route.

16-6

In closing, we ask that you consider four things.

1. Adding more categories to the rule, such as the nonflats to include several gloss limits, interior and exterior, and adjust those limits accordingly.
2. Push out the 2002 limit to 2004 to allow more time for reformulation and evaluation of new products.
3. Drop the 2006 limits completely, and if necessary, revisit those limits at a later date.
4. Extend the presentation of the SCM for Architectural Coatings to ARB until June 2000.

Thank you for your consideration of these comments. If you have any questions, please contact me.

Sincerely,



Marcella Nichols, CHMM  
Regulatory Compliance Mgr.

cc: B. Simmons  
D. Vermilya  
D. Patrizi  
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**MWD**

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

July 7, 1999

Mr. Dean C. Simeroth, Chief  
Criteria Pollutants Branch  
Stationary Source Division  
Air Resources Board  
2020 "L" Street  
P. O. Box 2815  
Sacramento, California 95812

Comments on the Suggested Control Measure for Architectural Coatings

Dear Mr. Simeroth:

The Metropolitan Water District of Southern California (Metropolitan) appreciates this opportunity to provide comments to the Air Resources Board (ARB) on the draft 6/10/99 proposed changes to the Suggested Control Measure for Architectural Coatings (SCM). Metropolitan has also met with ARB representatives (Don Ames, Jim Nyarady, Mike Jaczola) on June 23, 1999 to discuss the draft document. Metropolitan distributes wholesale water obtained from the Colorado River and Northern California to 27 member agencies (and indirectly to over 300 retail water agencies) and provides more than one-half of the water used by approximately 16 million persons in the 5,200 square-mile coastal plain of Southern California. To provide this service, Metropolitan operates an extensive system of water conveyances, reservoirs, and water treatment plants. The comments herein reflect Metropolitan's views and concerns as an affected agency.

17-1

Metropolitan is supportive of the efforts to reduce volatile organic compound (VOC) emissions from the application of architectural coatings. We recognize and appreciate ARB's efforts to harmonize the draft proposed SCM's provisions with existing related federal and regional regulations. In particular, Metropolitan is interested in more closely aligning the proposed SCM with the May 14, 1999 amendments to the South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings. As an end-user of architectural/industrial maintenance (AIM) coatings on critical components of the water delivery system, Metropolitan has concerns with respect to having sufficient time to identify and test the lower VOC AIM coatings to determine their adequacy to replace our existing approved coatings. The SCAQMD Rule 1113 addresses this time concern by identifying a contingency provision for "essential public services coatings" (EPSC). For the same reasons that such a provision was incorporated into Rule 1113, as well as for consistency, Metropolitan is requesting that an EPSC provision also be placed in the SCM. Metropolitan's specific concerns and recommendations are provided below.

Available Replacement Coatings

17-2

**Issue:** The draft proposed SCM includes the following: revised definition of "Industrial Maintenance Coatings"; and reduction of VOC limits in specific AIM categories, including Industrial Maintenance Coatings (from 340 g/l to 250 g/l, effective July 1, 2002, and from 250 g/l to 100 g/l effective July

17-2

1, 2006). While supportive of the goal to reduce VOC emissions, Metropolitan has concerns regarding the timely availability of the lower VOC containing compliant coatings which meet field needs. As an essential public service, Metropolitan has the responsibility to ensure the reliability and safety of the water delivery system, as well as to minimize the occurrence of potential service interruptions. A lack of coatings which have been demonstrated to perform comparably to existing products could conceivably result in the use of coatings which may not adequately protect and possibly result in accelerated damage to our public infrastructures (e.g., pipelines, water conveyance equipment, tanks, or bridges). Metropolitan utilizes approximately 10,600 gallons of architectural industrial maintenance coatings, statewide, per year.

17-3

Over the past thirty years, Metropolitan has established a rigorous performance testing program to evaluate all coatings and materials of construction prior to approval for use on Metropolitan's industrial structures. For a first generation coating to be accepted, the process involves two to three years of performance testing by Metropolitan's Engineering Division Materials and Metallurgy Section, followed by an additional three years of field testing in an actual field construction project. Therefore, as higher VOC containing non-compliant coatings are phased out, it can take as many as six years for any new compliant coatings to be demonstrated as suitable for a public water service. In fact, it has been our experience that 80 % of the coatings tested in our Corrosion Control Laboratory do not meet Metropolitan's performance standards and are rejected for poor performance reasons. Additionally, 75 % of the coatings tested do not meet the physical and performance characteristics stated in the manufacturer's technical product data sheets. To exemplify this, Attachment 1, the Table of Metropolitan Water District Coating Performance Testing Results, identifies five coatings that Metropolitan has tested and rejected for performance reasons. Attachment 2 is a summary of the American Society for Testing and Materials (ASTM) standardized test methods which Metropolitan currently runs on coatings and adhesives.

Specific information identifying the impacts that the proposed SCM VOC limits will have on Metropolitan's current critical coatings is provided in Attachment 3. As shown by this data, the proposed SCM VOC limits will have a severe impact on Metropolitan's approved critical coatings.

17-4

**Recommendation:** To provide adequate time for the identification and testing of lower VOC compliant coatings, Metropolitan recommends that similar to SCAQMD Rule 1113, a category be established for "essential public services coatings" with a continued VOC limit of 340 g/l, until July 1, 2006, when it would be subject to the same final VOC limit as the Industrial Maintenance Coating category. These coatings would be defined as, "protective (functional) coatings applied to components of power, municipal wastewater, water, bridges and other roadways". The EPSC VOC limits and effective dates would be: 340 g/l, date of adoption; 100 g/l, July 1, 2006 (adoption subject to the results of the scheduled SCAQMD technology assessments).

Again, by establishing these modified limits, adequate time would be provided to test the new coatings. Metropolitan is committed to phasing out the higher VOC coatings and is actively testing lower VOC (e.g., 100 g/l) materials. As soon as they pass, the lower VOC coatings will be incorporated into Metropolitan's operations as replacements for the comparable higher VOC coatings. We do not envision exercising the EPSC option unless necessary (e.g., suitable lower VOC coatings

17-4 cannot be identified). Additionally, as an Essential Public Service Agency, Metropolitan is committed to participating in the technical assessments with SCAQMD, as directed by the SCAQMD Board Resolution No. 99. We are prepared to meet with SCAQMD staff and other interested public agencies in the next few weeks to begin planning of the technical assessments. Through these technical assessments, an attempt will be made to accelerate the overall testing period, where feasible.

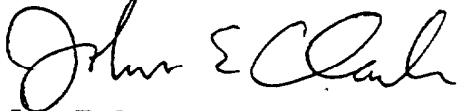
2) Available Repair Coatings

17-5 **Issue:** Currently, Metropolitan has structures that are coated with solvent borne coatings. Over time, these structures will require patch repair and maintenance using a compatible coating system. In order to maintain manufacturer warranty of the coating, the same solvent borne coating that was originally applied, or a repair coating approved by the manufacturer would need to be utilized. Once the proposed SCM becomes effective, these coatings may not meet the required VOC limits. The alternative to utilizing the original coating would be complete removal and recoating (primer, intermediate and topcoat) of the entire structure, which will result in release of a higher VOC volume overall.

17-6 **Recommendation:** The proposed EPSC category and modified VOC limit will help ameliorate this concern regarding touch-up and repairs of the existing higher VOC coatings. In addition, as discussed with SCAQMD staff, the cooperative public services technical assessment will include evaluation of the new coatings' compatibility with existing coatings.

Thank you again for the opportunity to comment on the draft proposed SCM and to meet with ARB representatives to discuss Metropolitan's concerns. Should you have any questions or wish to discuss Metropolitan's comments, please contact Ms. Carol Kaufman at (213) 217-6207.

Very truly yours,



John E. Clark  
Manager, Regulatory Affairs Branch

CYK/lov-R-99-146

cc: Donald J. Ames, P.E.  
Assistant Chief

James E. Nyarady, P.E.  
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Attachment 1

Table of Metropolitan Water District Coating Performance Testing Results  
(Page 1 of 2)

Coating Type	Manufacturer's Description of Performance and Characteristics	VOC (g/l)	Substrate & Prep	Primer	Test Protocol	Test Duration	Evaluation Results	Remarks Regarding Coating Performance
# 101 Two Component Elastomeric Polyurethane Rubber Coating System	Outstanding abrasion resistance, tensile strength and hydrolytic stability	2.4 g/l	Concrete SSPC-7	Polyamide epoxy sealer	Immersion -Unreated Water ASTM D-470 (Modified)	23 months	Failure Mode: Severe color fade, surface cracking, osmotic blistering	Unacceptable: adhesion, color retention, & resistance to permeability
					Immersion -Demin. Water ASTM D-470 (Modified)	23 months	Failure Mode: Severe color fade, surface cracking, osmotic blistering	Unacceptable: adhesion, color retention, & resistance to permeability
					Immersion -Filtered Water ASTM D-470 (Modified)	23 months	Failure Mode: Severe color fade, surface cracking, osmotic blistering	Unacceptable: adhesion, color retention, & resistance to permeability
					Atmospheric ASTM G-7	18 months	Failure Mode: Severe discoloration	Unacceptable: color retention & resistance to weathering
					Immersion -Unreated Water ASTM D-470 (Modified)	27 months	Failure Mode: Moderate color fade, surface cracking, osmotic blistering, disbonding	Unacceptable: adhesion, poor color retention, & resistance to permeability
			Steel Panel SSPC-3	Polyurethane primer	Immersion -Filtered Water ASTM D-470 (Modified)	27 months	Failure Mode: Moderate color fade, surface cracking, osmotic blistering, disbonding	Unacceptable: adhesion, poor color retention, & resistance to permeability
					Immersion -Finished Water ASTM D-470 (Modified)	22 months	Failure Mode: Moderate color fade, surface cracking, osmotic blistering, surface deterioration & disbonding	Unacceptable: adhesion, poor color retention, & resistance to permeability
					Atmospheric ASTM G-7 (Modified)	21 months	Failure Mode: Moderate discoloration, surface etching, surface cracking/checking	Unacceptable: color retention & resistance to weathering
					High Humidity ASTM D-2247 (Modified)	4 months	Failure Mode: Heavy rust formation at X, rust formation at edge detail	Unacceptable: resistance to moisture permeability
					Cathodic Disbonding ASTM G-7 (Modified)	4 months	Polarization established - coating in good condition	Coating passed 120 day exposure CDT test
# 103 Two component water based epoxy coating	High performance exterior industrial maintenance enamel, Chemical, abrasion, & Impact resistance	176	Steel Panel SSPC-3 (abrasive blasted)	Zinc rich water based epoxy	Atmospheric ASTM G-7 (Modified)	17 months	Failure Mode: Moderate discoloration, loss of 50% gloss	Unacceptable: gloss and color retention & resistance to weathering
					Weatherometer ASTM D-2363 (Modified)	1600 Hours	Failure Mode: surface etching, moderate darkening, small osmotic blisters, 30 loss of gloss	Unacceptable: gloss and color retention, resistance to weathering permeability
				Catalyzed epoxy	Atmospheric ASTM G-7 (Modified)	17 months	Failure Mode: Moderate discoloration, loss of 40% gloss	Unacceptable: gloss and color retention & resistance to weathering
					High Humidity ASTM D-2247 (Modified)	4 months	Failure Mode: rust formation at X, rust formation at edge detail, small osmotic blisters	Unacceptable: adhesion and resistance to moisture permeability & color retention
				DTM acrylic gloss primer	Weatherometer ASTM D-2363 (Modified)	1600 Hours	Failure Mode: surface etching, mod. darkening, small osmotic blisters, 63% loss of gloss	Unacceptable: gloss and color retention, resistance to weathering
					Atmospheric ASTM G-7 (Modified)	17 months	Failure Mode: Moderate discoloration, loss of 30% gloss	Unacceptable: gloss and color retention & resistance to weathering

Attachment 1

Metropolitan Water District Coating Performance Testing Results  
(Page 2 of 2)

Coating Type	Manufacturer's Description of Performance and Characteristics	VOC (g/l)	Substrate & Prep	Primer	Test Protocol	Duration	Evaluation Results	Remarks Regarding Coating Performance
# 103 Water reducible, 100% acrylic gloss coating (DTM).	Corrosion resistant coating, excellent moisture resistance, excellent exterior durability	209 g/l	Steel Panel SSPC-5	DTM	Atmospheric ASTM G-7	17 months	Failure Mode: moderate discoloration, acceptable gloss retention, tiny rust spots.	Unacceptable: color retention & resistance to weathering.
					Weatherometer ASTM D-2365 (Modified) High Humidity ASTM D-2247 (Modified)	1600 Hours	Failure Mode: slight darkening, 5% loss of gloss	Acceptable: gloss and color retention, & acceptable resistance to weathering.
					Weatherometer ASTM D-2365 (Modified) Atmospheric ASTM G-7 (Modified) Cathodic Disbonding ASTM G-8 (Modified)	4 months	Failure Mode: heavy rust formation at X, moderate rust formation all surfaces, osmotic blistering.	Unacceptable: adhesion & resistance to moisture permeability
					Weatherometer ASTM D-2365 (Modified)	1600 Hours	Failure Mode: moderate darkening blisters, 5% loss of gloss	Acceptable gloss and color retention
					Atmospheric ASTM G-7 (Modified) Cathodic Disbonding ASTM G-8 (Modified)	19 months	Failure Mode: slight discoloration; 16% loss of gloss.	Acceptable color retention & acceptable resistance to weathering
# 104 100% solids aromatic elastomeric urethane coating	Coating is designed for immersion in potable water, salt water, and aqueous chemical solutions	0	Concrete SSPC-7	Epoxy Primer	Immersion - Unheated Water ASTM D-870 (Modified)	4 months	Polarization established - coating in good condition	Coating passed 120 day exposure CDT test
					Immersion - Filtered Water ASTM D-870 (Modified)	23 months	Failure Mode: severe darkening	Unacceptable: color retention.
					Immersion - Filtered Water ASTM D-870 (Modified)	23 months	Failure Mode: severe darkening, surface deterioration; osmotic blistering	Unacceptable: adhesion, color retention, resistance to moisture permeability & chemical exposure.
					High Humidity ASTM D-2247 (Modified)	4 months	Coating in good condition	Acceptable short term resistance to moisture permeability.
					Cathodic Disbonding ASTM G-8 (Modified)	4 months	Polarization established, however coating developed osmotic blisters and delamination from substrate.	Unacceptable: adhesion, resistance to moisture permeability, & failed CDT test (ASTM G-8)
# 105 Acrylic primer coating	Premium anti-corrosion industrial maintenance primer for interior and exterior metal surfaces.	250	Steel Panel SSPC-5	DTM	Cavitation Test Chamber - stability under conditions of high velocity water flow.	24 hours	Failure Mode: Coating delaminated from substrate.	Coating exhibited unacceptable stability under conditions of high water flow.
					Atmospheric ASTM G-7	20 months	Failure Mode: moderate discoloration, extensive rust formation.	Unacceptable: color retention, & resistance to weathering.
					High Humidity ASTM D-2247 (Modified)	4 months	Coating formed osmotic blisters, extensive rust spots, moderate darkening.	Unacceptable: color retention, resistance to weathering, & unacceptable resistance to moisture permeability



## MWD TESTING USING ASTM PROCEDURES

<u>TEST VENUE</u>	<u>ASTM STANDARD</u>
• Immersion in: Finished water	ASTM D-870 (87) Modified
Filtered water	ASTM D-870 (87) Modified
Raw water	ASTM D-870 (87) Modified
• Softened Water: (Zero water)	ASTM D-870 (87) Modified
• Cathodic Disbonding: (Water)	ASTM G-8 (79)
• Cathodic Disbonding: (Soil)	ASTM G-19 (88)
• Abrasion Test. Taber Abraser Method:	ASTM D-4060 (90)
• Accelerated Weatherometer:	ASTM D-2565 (89) Modified
• Cavitation Test:	None applicable
• High Humidity:	ASTM D-2247 (87) & ASTM B-117 (90) Modified
• KTA Envirotest:	ASTM D-2246 (87) Modified
• Atmospheric Weathering:	ASTM G-7 (89) Modified
• Slant Shear Test:	ASTM C-882 (91) Modified
• Adhesion Test:	ASTM D-4541 (85)
• Spectroscopic Analysis of Coatings:	ASTM E-932 (89)
• Wet To Dry Hiding Change (Spread Cards):	ASTM D-5007 (89) Modified
• Physical Analyses of Coatings Including:	
Solids by Wt.	ASTM D-2369 (90) Modified
Solids by Vol.	ASTM D-2697 (86) & ASTM D-2832 (91) Modified
Viscosity	ASTM D-4212 (88)
Wt. Per Gallon	ASTM D-1475 (90) Modified
Specific Gravity	ASTM D-1475 (90)
• Wet Chemical Analysis:	Depends on material and analysis indicated

## MWD TESTING USING ASTM PROCEDURES

### TEST VENUE

### ASTM STANDARD

#### IMMERSION IN:

Finished, Filtered, Raw and Softened Water

ASTM D-870 (87) Modified

**Purpose:** This procedure tests a coating's resistance to water by installing immersion coated panels into troughs containing the various types of water processed and treated at Metropolitan's F.E. Weymouth Plant located in La Verne, California. Softened water used for testing is prepared by adding sodium chloride, reducing total hardness to 2 to 3 ppm calcium carbonate. Chemical properties of finished, filtered, and raw waters can be found on table A, listed under source waters for the F.E. Weymouth plant. This test may be modified to include immersion in chemicals.

**Procedure:** Three inch by seven inch coated steel panels are immersed into 72 degree +/-4 degrees Fahrenheit water for 2 years. Eighty percent of the test panel is under water while 20 percent of the panel is above water. Flow rates of the troughs range from 2 to 5 gallons per minute. Test panels are evaluated every three months to determine any changes in the coating's physical properties. A coating will be considered unsuitable for immersion service if it develops any signs of rust, blistering, or softening.

**Equipment:** Equipment necessary to conduct this test includes: 3 inch by 7 inch by 1/8 inch thick steel test panels, fiberglass immersion troughs measuring 7 inch by 7 inch by 15 feet long, an irrigation timer (Irritrol MC-8 Plus), Hunter HP 3/4 inch diameter automatic valves, 3/4 inch diameter manual PVC or brass globe valves, and a water source. (Trough dimensions and method of construction can be modified to accommodate available space.)

**\*Note\*** Equipment necessary to prepare and apply test coatings includes: an abrasive blast cabinet (Kelco model 100900) and HVLP spray gun (Devilbiss model JGHV 530.)

**Duration of Testing:**

Two years

**Pass/Fail Criteria:**

A pass will exhibit no blisters, loss of adhesion to the substrate, intercoat delamination, rust, or discoloration.

## CATHODIC DISBONDING (Water)

## ASTM G-8 (79)

**Purpose:** This procedure provides a method for determining the dielectric strength of a coating and its ability to resist disbonding when exposed to electrical overvoltages as a result of cathodic protection.

**Procedure:** A 4 inch diameter by 2 foot long piece of pipe is externally coated and allowed to cure. A resin cap 6 inches in diameter by 2 inches thick is cast on one end of the pipe to seal the end from water intruding to the internal portion of the pipe and also to provide a base stand for the pipe. The coated pipe is inspected for holidays using a low voltage holiday detector. Coating resistance is measured with an Ohmmeter. Acceptable resistance should exceed 20,000 Ohms. If the sample passes both criteria, a ¼ inch diameter holiday is made through the coating, nine inches up from the bottom of the pipe. The sample is then immersed in a solution of artificial seawater while simultaneously exposing it to an electrical potential of 1.5 +/-0.05 volts generated by a magnesium anode. Purpose for the holiday is to provide a path for the current generated by the anode to the pipe substrate. The test sample is evaluated daily for one week, reducing evaluations to every other day for two weeks, then further reducing to once a week after the third week. The following data is recorded each time the coated pipe is evaluated: Description of the coating's physical appearance, voltage output, and milliamp demand. The test period is 120 days.

**Equipment:** Equipment necessary to conduct this test includes: a 4 inch diameter by 2 foot long externally coated pipe sample, electrically insulated PVC cells measuring 1 foot by 1 foot by 2 feet deep, a low voltage holiday detector, a Digital Multimeter (Tinker and Rasor M-1), a copper-copper sulfate reference cell, Sodium Chloride, Sodium Carbonate, Sodium Sulfate for preparation of artificial seawater, and 1 inch diameter by 2 feet long magnesium anodes. (Magnesium anodes will normally last a period of 240 days before requiring replacement.)

**Duration of Testing:** One-hundred twenty days. (Occasionally this duration will be extended based on performance of the coating.)

**Pass/Fail Criteria:** No blisters, delamination, or milliamp readings above 1.1ma during the 120 day test period.

**\*Note\*** Used saltwater solution may be considered hazardous waste.

## CATHODIC DISBONDING (SOIL)

## ASTM G-19 (88) Modified

- Purpose:** This procedure provides a method for determining the dielectric strength of a coating and its ability to resist disbonding when exposed to electrical overvoltages as a result of cathodic protection when buried in soil.
- Procedure:** A 4 inch diameter by 4 foot long piece of pipe is externally coated and allowed to cure. The pipe is inspected for holidays with a low voltage holiday detector. Coating resistance is measured with an Ohmmeter. Resistance should be above 20,000 Ohms. If the sample passes both criteria, a ¼ inch holiday is made in the coated pipe 9 inches up from the bottom of the pipe. Purpose for the holiday is to provide a path for the current generated by the anode. The sample is then buried in a low resistance soil while simultaneously exposing it to an electrical current of 1.5 +/-0.05 volts generated by a magnesium anode. Depth of burial for the sample is 3 feet, allowing one foot of the pipe to extend above ground level. Voltage and milliamp readings are taken daily for one week, reducing readings to every other day for two weeks, then further reducing to once a week after the third week. Results are recorded regarding voltage and milliamp demand for 2 years minimum. \*Note\* Pipe samples cannot be easily inspected due to the depth of soil cover.
- Equipment:** Equipment necessary to conduct this test includes: Plastic or wooden boxes with an internal measurement of 3 feet by 3 feet by 3 feet deep, 4 inch diameter by 6 feet long steel pipe, a low voltage holiday detector (Tinker and Rasor M-1), a Digital Multimeter, copper-copper sulfate reference cell, soil with high clay content, and a 10 pound magnesium sack anode capable of producing 1.5 +/-0.05 volts.
- Duration of Testing:** Two years minimum.
- Pass/Fail Criteria:** No blisters, delamination, or milliamp readings above 1.1 ma. within the 2-year test period.

## ABRASION TEST TABER ABRASER METHOD      ASTM D-4060 (90)

- Purpose:** This procedure evaluates a coating's ability to resist abrasion utilizing a Taber Abraser (model 503 standard). This test determines a coating's resistance to abrasion produced by solid particles.
- Procedure:** Test coating is applied to one side of a 4 inch square by 1/8 inch thick steel panel and allowed to cure. The panel is then placed on the Taber abraser

machine. Abrasion wheels are selected based on coating hardness and the intended end use of the coating. The panel is then abraded for a predetermined number of cycles to determine the Taber Wear Index number for the test coating. Taber Wear Index number is a calculation factoring in the loss of coating in grams, the number of cycles performed, and the specific gravity of the coating. This index allows for comparison of abrasion resistance based on similar coatings and wheel hardness.

- Equipment:** Equipment necessary to conduct this test includes: A Taber Abraser (model 503 standard), 4 inch square by 3/32 inch thick steel panels, and an analytical balance capable of having an accuracy within 0.001 grams.
- Duration of Testing:** Typically 1000 cycles. This may vary depending on type of coating tested, abrading wheels used, weight of counter balances, and the intended end use of the coating.
- Pass/Fail Criteria:** Test specimen should possess a similar wear index to comparable products currently used by Metropolitan.

## **ACCELERATED WEATHEROMETER      ASTM D-2565 (89) Modified**

- Purpose:** This procedure provides a method for determining the effects of ultraviolet and wet/dry cycles on coatings and other materials. This test is used when results are needed within a short period of time.
- Procedure:** A steel panel 2-7/8 inches wide by 6 inches long by 3/32 inch thick receives proper surface preparation and is then coated. Once cured, the test panel is installed in the weatherometer and subjected to a combination of ultraviolet light and demineralized water. Testing takes about 5 weeks to provide exposure equal to 1 year actual atmospheric conditions for Southern California. Superior performing products exhibit little or no loss of gloss and reflectance, rust, blistering, fading, or chalking.
- Equipment:** Equipment necessary to conduct this test includes: An accelerated weatherometer such as the Atlas Ci-65 Xenon Arc Weatherometer used by Metropolitan, 2-7/8 inch wide by 6 inch long by 3/32 inch steel panels, and a source for demineralized and finished water. Optional equipment consists of gloss and reflectance meters.
- Duration of Testing:** A minimum of 5 weeks.

**Pass/Fail Criteria:** An acceptable coating would not experience blisters or rust. Fading, loss of gloss, or reflectance, may be allowed if it is deemed only slight in appearance.

## **CAVITATION TESTING:**

**None applicable**

**Purpose:** This procedure provides a method for evaluating a coating's ability to resist high velocity cavitation and erosion. This procedure, developed by members of the Metropolitan Corrosion Engineering branch, is designed to simulate "real world" conditions of high water velocity, turbulent flow, erosion, and corrosion. This test is very important in evaluating coatings intended for use in high velocity-cavitating conditions.

**Procedure:** Steel test panels measuring 2 inch wide by 7 inch long by  $\frac{1}{4}$  inch thick are coated and allowed to cure. Once cured, two panels are installed in two separate chambers. Cavitation testing exposes coated panels to water streams of high velocities and pressures. These chambers direct streams of water at the upstream portion of the test coupon measuring 175 psi, dropping to 30 psi just below the test panel. The sudden change in pressure creates a turbulence on the coated panel while producing microscopic vapor bubbles on the coated surface. These bubbles collapse and create cavitation. Coated panels are exposed for 24 hours. Metal panels are exposed for 28 days. Cavitation resistance is determined by weight loss of test panel and amount of coated surface or metal removed from the test panel. Following testing, the panel will be compared to similar materials to determine pass or fail criteria. Generally, the less material removed from the panel the better the cavitation resistance.

**Equipment:** Equipment necessary to conduct this test includes: Steel panels 2 inch wide by 7 inch long by  $\frac{1}{4}$  inch thick, cavitation chambers complete with manifold valves, hardware, and a supply of a large volume of high pressure water. (It should be noted that cavitation testing can also be done on smaller scales utilizing less volumes and pressures of water.)

**Duration of Testing:** Twenty-four hours for coated panels and 28 days for metal panels.

**Pass/Fail Criteria:** Pass and failure is subjective and is based on comparisons of similar types of materials.

## HIGH HUMIDITY TEST

ASTM B-117 (90) Modified  
and ASTM D-2247 (87)

- Purpose:** This test evaluates a coating's ability to resist degradation while in humid environments. In this procedure coated test panels are exposed to 100 percent relative humidity at 100 degrees Fahrenheit. This test evaluates a coating's ability to resist degradation while in humid environments.
- Procedure:** Steel panels 2 inch by 7 inch by 1/4 inch thick are coated and allowed to cure. These panels are installed in a high humidity/prohesion test cabinet which produces humidity by atomizing demineralized water heated to 100 degrees Fahrenheit. Most panels will have a 4 inch long "X" scribed through the coating to the steel substrate. Purpose for this "X" is to observe any undercutting and peeling along the scribed surface. This test is conducted for 120 days, and following testing the panels are examined for rust, blisters, coating delamination, and softening. A successful pass would exhibit no blemishes.
- Equipment:** Equipment necessary to conduct this test includes: A high humidity cabinet such as the Atotech At-15 Pro used by Metropolitan, 3 inch wide by 7 inch long by 1/4 inch thick steel panels, and a source for demineralized water.
- Duration of Testing:** One-hundred twenty days minimum.
- Pass/Fail Criteria:** Coated panel shall exhibit no rust, blisters, delamination or softening of the coating.

## KTA (CYCLICAL) ENVIROTEST

ASTM D-2246 (87) Modified

- Purpose:** In this procedure coated panels are exposed to cyclic stresses created by changes in the exposure environment. This test evaluates a material's ability to resist degradation under conditions of humidity, heat, immersion and ultraviolet light.
- Procedure:** Steel panels 4 inch by 6 inch by 1/8 inch thick are coated and allowed to cure. Panels are then installed in the cyclical test cabinet and exposed to cycles of wet, dry, light, dark, hot, and cold for 1,600 hours. Panels are evaluated for signs of rust, blistering, delamination, fading, and softening of the coating. A passing or successful test would be a coating exhibiting none of the defects listed above.

**Equipment:** Equipment necessary to conduct this test includes: A cyclical test cabinet such as the KTA Envirotest used by Metropolitan, and a source for demineralized water.

**Duration of Testing:** 1,600 hours of exposure.

**Pass/Fail Criteria:** A passing test panel will exhibit no rust, blisters, delamination, fading or cracking.

## **ATMOSPHERIC WEATHERING: ASTM G-7 (89) Modified**

**Purpose:** This procedure tests a coating's resistance to cracking, peeling, and fading by exposing the coated panels to natural sunlight.

**Procedure:** Test panels 2 inch wide by 7 inch long by ¼ inch thick steel panels are coated and allowed to cure. Panels are then installed on racks positioned at a 45 degree angle, outdoors facing south. In addition to ultraviolet exposure, the test panels are subjected to moisture in the form of rain and airborne pollutants such as smog. Panels are evaluated for coating deterioration such as: rust, fading, chalking, and discoloration. Minor chalking, fading, and loss of gloss are considered acceptable.

**Equipment:** Equipment necessary to conduct this test includes: Test racks which can vary in size depending on the number of test panels. Racks are configured to allow panels to face at a 45 degree angle to the sun. Metropolitan's racks measure 4 feet high by 30 inches wide by 80 inches long.

**Duration of Testing:** Eighteen months minimum;

**Pass/Fail Criteria:** Test panels which exhibit minor fading and chalking are considered a pass. Damage more severe such as rusting or moderate discoloration would constitute a failure.

## **SLANT SHEAR TEST: ASTM C-882 (91) Modified**

**Purpose:** This procedure provides a method for determining bond strength of epoxy resin-based or other adhesive materials when applied to cementitious substrates. Materials tested by this method are typically used for repair of concrete.



- Procedure:** Concrete cubes measuring 2 inches by 5 inches long and cast on a 45 degree slant receive prescribed surface preparation as required. Epoxy is applied to the 45 degree side of each block at a thickness recommended by the manufacturer, joined together, then cured for the length of time recommended by the manufacturer. The finished product produces a cube that will be placed in compression to create shear forces. Strengths achieved are known as shear strengths. Shear strengths can be converted to pounds per square inch (psi). Acceptable test results include samples with shear strengths greater than concrete compression strengths or when concrete fails before the epoxy joint.
- Equipment:** Equipment necessary to conduct this test includes: A Universal Testing Machine such as the Instron model 4206 used by Metropolitan, molds to cast concrete shear blocks, an abrasive blaster (Kelco model 100900) to prepare concrete samples and application equipment.
- Duration of Testing:** Approximately 15 minutes per block.
- Pass/Fail Criteria:** Epoxy with strengths greater than concrete compression strengths. Concrete that fails before the epoxy would constitute a pass.

## **ADHESION TESTING:**

**ASTM D-4541 (85)**

- Purpose:** This procedure provides a test method for determining the pull-off strength of coatings to various substrates as well as to other coatings.
- Procedure:** Precoated panels are prepared by lightly abrading the test location with 80 grit sandpaper. The aluminum dolly which will be affixed to the test surface is abraded on its surface and then adhered to the test location. Adhesives such as "Crazy Glue or Epoxy provided by Elcometer" are applied to the dolly and adhered to the coating. Excess adhesive should be removed immediately from around the dolly. Glued dollies are allowed to fully cure as required by adhesive manufacturer. The adhesion tester is then placed over the dolly and secured to the dolly. Tightening the handle on the adhesion tester applies an even pulling pressure on the dolly causing it to pull off the coated surface. A minimum of three tests shall be performed on each sample. Factors influencing adhesion strength include: Generic type of coating, substrate adhered to, age of coating, and surface preparation of the coating.

- Equipment:** Equipment necessary to conduct this test includes: An adhesion tester such as those manufactured by Elcometer, aluminum dollies sold by Elcometer, 80 grit sandpaper, and adhesive.
- Duration of Testing:** Testing takes 24 hours due to time required for adhesive to cure. Otherwise pulling of dollies takes 5 minutes per dolly.
- Pass/Fail Criteria:** Successful adhesion strengths depend on many factors. Visual inspection of the specimen will provide important information regarding failure type and mode, e.g., cohesive failure or adhesive failure. Typically a polyamide epoxy over an abrasive blasted surface should produce an adhesive strength of 700 to 1000 psi per dolly.

## **SPECTROSCOPIC ANALYSIS OF COATINGS      ASTM E-932 (89)**

- Purpose:** This procedure is a method for analyzing organic constituents of a coating by Infrared Spectrophotometry. This test is used to identify coatings by family based on organic constituents present.
- Procedure:** The Spectrophotometer generates and directs a laser beam of infrared light at the coating held in a specialized crystal. This crystal is designed to filter unwanted radiation while allowing desirable radiation to contact the coating. The result is a spectrum of the test material. This spectrum will indicate which family of organic products the coating belongs to and can quantify the amount of organic constituents.
- Equipment:** Equipment necessary to conduct this test includes: An Infrared Spectrophotometer such as the Nicolet 510 P used by Metropolitan, a computer to run the Spectrophotometer, and a plotter.
- Duration of Testing:** To produce a spectra takes between 15 minutes to several hours depending on type of material and if sample is liquid or solid.
- Pass/Fail Criteria:** This procedure is normally used to identify and classify coatings. Pass/fail criteria is based on determining by identification if a coating is or is not in the family or class that was specified for a particular project.

## **WET TO DRY HIDING CHANGE (SPREAD CARDS)**

**ASTM D-5007-(89) Modified**

- Purpose:** This procedure is a method, which visually evaluates a coating for hiding power, cure time, and undissolved solids in a cured coating. To determine hiding properties requires applying a coating to special black/white spread cards to determine its ability to cover a light/dark substrate without "bleeding" through. Then the coating is visually examined for undissolved particulates. Dried coatings should be smooth and without noticeable particulates. When particulates are observed in the dry film this indicates a coating's pigment may have been improperly ground or the coating is "seeding out." Seeding out refers to a condition when pigments fall out of solution and solidify due to the coating being old or unstable. Spread cards may also be used to determine a coating's speed of cure. Cure time is dependent on specified coating's thickness proper mixing, solvent content, and other variables. Once the coating is applied, it is timed to determine if the cure time matches manufacturer's specifications.
- Procedure:** A spread card is secured to a draw down table by a vacuum that is drawn through holes in the table. A dollop of paint is placed on the spread card and is pulled across the spread card with a calibrated draw down bar (Logicator multi-notch applicator). These bars are milled and calibrated at thicknesses from one to eight mils. The coating film is allowed to dry and examined for coverage, color, and any irregularities.
- Equipment:** Equipment necessary to conduct this test includes: A Logicator multi-notch applicator, Logicator test charts, a vacuum plate, and a visual hiding standard. All items listed are available from the Leneta Company located in Ho-Ho Kus, New Jersey.
- Duration of Testing:** Testing takes approximately 15 minutes. Coating is allowed to dry overnight and examined for qualities listed above.
- Pass/Fail Criteria:** A passing sample shows full hide at manufacturer's specified thickness and shows no impurities in the coating film.

## **PHYSICAL ANALYSES OF COATINGS INCLUDING:**

### **SOLIDS BY WEIGHT:**

**ASTM D-2369 (90) Modified**

- Purpose:** This procedure describes a method for determining the percent by weight of solids of a coating. This method allows the tester to compare a manufacturer's published solids content with results derived in the lab.

**Procedure:** A clean, unused, evaporative dish and stirring rod are weighed and weights recorded on a lab data sheet. The weight of the sample, dish, and stirring rod are also recorded on a lab data sheet. The dish with the coating and rod are placed in an oven and heated to 110 degrees Centigrade and stirred periodically until all solvent has evaporated. Once the coating and dish have cooled, a final weight is taken. Calculations are performed to determine percent solvent driven off leaving percent solids by weight of the coating.

**Equipment:** Equipment necessary to conduct this test includes: A 200 ml teflon evaporating dish, an oven capable of heating samples to 110 degrees Centigrade, 22 gauge stainless steel wire, and an analytical balance accurate to 0.001 grams.

**Duration of Testing:** Twenty-four hours.

**Pass/Fail Criteria:** Coating should meet manufacturer's specs +/-2 percentage points.

**SOLIDS BY VOLUME:** **ASTM D-2697 (86) and  
ASTM D-2832 (91) Modified**

**Purpose:** This procedure describes a method for determining volume solids of a coating. This test allows the tester the ability to compare a manufacturer's published solids content with results derived in the lab.

**Procedure:** Clean stainless steel discs are weighed in both air and water to determine their volume. The discs are dip coated with the test paint and allowed to dry. Coated discs again are weighed both in air and water to determine volume of coated discs. Calculations are performed subtracting the volume of the uncoated discs from the coated discs leaving the volume of the coating. This test confirms that manufacturer's data regarding solids by volume is correct.

**Equipment:** Equipment necessary to conduct this test includes: 1-1/2 inch diameter by 1/16 inch thick stainless steel discs, an analytical balance accurate to 0.001 grams, 1000 ml glass beaker, a thermometer, and a source for demineralized water.

**Duration of Testing:** Twenty-four hours to perform the entire process.

**Pass/Fail Criteria:** Test is not pass or fail but used as a comparative against manufacturer's data.

## **VISCOSITY**

### **ASTM D-4212 (88) Modified**

**Purpose:** This procedure describes a method to determine fluidity or viscosity of a coating or related liquid material. This test can be used to determine if a coating has been properly prepared.

**Procedure:** A calibrated viscometer, such as the Zahn viscosity cup used by Metropolitan, is filled to the top with the test coating. The viscometer is lifted above the coating container allowing the coating to drain out the hole in the bottom of the viscometer. A stopwatch is used to time the draining of the coating. Once there is a hesitation in draining of the coating, the test is stopped and time is recorded. Elapsed time and Zahn cup size are important in determining viscosity of the test coating. Results are compared to viscosity found in manufacturer's data sheets.

**Equipment:** Equipment necessary to conduct this test includes: Zahn cups number 1 through 5 and a stopwatch.

**Duration of Testing:** Testing requires approximately 15 minutes to perform.

**Pass/Fail Criteria:** Viscosity should match manufacturer's numbers listed in product data sheets.

## **WEIGHT PER GALLON**

### **ASTM D-1475 (90) Modified**

**Purpose:** This procedure describes a method to determine a coating's weight per gallon. Results of this test also provide specific gravity of the coating

**Procedure:** This test requires use of a calibrated pyncometer having a volume of 83.33 cc. The empty pyncometer is weighed and the numbers recorded. The coating is added to the Pyncometer filling it to the top. The lid is installed and filled pyncometer is reweighed. The weight of the empty pyncometer is subtracted from the full one and the product divided by 83.33. The result provides weight per gallon and specific gravity of the coating.

Equipment necessary to conduct this test includes: One 83.33 cc

**Equipment:** calibrated pyncometer and a balance which can weigh items to 400 grams or above. Accuracy should be 0.001 grams minimum.

**Duration of Testing:** Testing takes approximately 30 minutes.

**Pass/Fail Criteria:** Test results should coincide with manufacturer's published data found on product data sheet.

**SPECIFIC GRAVITY:**

**ASTM D-1475 (90)**

Same as procedure for determining weight per gallon.

**WET CHEMICAL ANALYSIS:**

Tests can vary depending on material analyzed and results desired.

# Attachment 3

## Reduction of Present MWD Approved Coatings Based on VOC Limits Proposed in California Air Resources Board (ARB) Suggested Control Measure(SCM) for Architectural Coatings - Grams of VOC per Liter of Coating, Less Water and Less Exempt Compounds

Coating Type A	Current VOC Limits g/l	CARB Proposed VOC Limit Effective 7/1/2002 <sup>a,b</sup>	CARB Proposed VOC Limit Effective 7/1/2006 <sup>a,b</sup>	% Reduction in Coatings Available (QPL MWD 1999) (ARB) @ CARB 7/1/2002 VOC Limit 250 g/l	% Reduction in Coatings Available (QPL MWD 1999) (ARB) @ CARB 7/1/2006 VOC Limit 100 g/l
Architectural Coatings: steel tank exteriors, steel structures, bridges, platforms, pumps, transformer cabinets, slide gates.					
1. Polyurethane Enamels (26)	340	250	100	392%	100%
2. Inhibitive Epoxy Primers (13)	340	250	100	392%	100%
3. Waterborne Acrylics (9)	340	250	100	392%	100%
4. Silicon & Synthetic Alkyds (17)	340	250	100	100%	100%
5. Epoxy Mastics (10)	340	250	100	100%	100%
6. Zinc Rich Epoxy & Urethane Primers (6)	340	250	100	392%	100%
7. Iron Oxide & Special Primers (12)	340	250	100	392%	100%

Coating Type B	Current VOC Limits g/l	CARB Proposed VOC Limit Effective Date of Adoption <sup>a,b</sup>	CARB Proposed VOC Limit Effective 2006 <sup>a,b</sup>	% Reduction in Coatings Available (QPL MWD 1999) (ARB) @ CARB 7/1/2002 VOC Limit 250 g/l	% Reduction in Coatings Available (QPL MWD 1999) (ARB) @ CARB 7/1/2006 VOC Limit 100 g/l
Immersion Coatings: interior steel tanks, water treatment equipment, pumps, weirs, pipeline interiors					
1. Coal Tar Epoxies (4)	340	250	100	50%	100%
2. High (80-90%) Solids Epoxies (7)	340	250	100	100%	83%
3. Low (50-80%) Solids Epoxies (6)	340	250	100	392%	100%

<sup>a</sup> These limits are subject to revision based on the outcome of scheduled SCAQMD technology assessments. Compliance with these limits is contingent upon availability of VOC compliant coating technology and products performing in a satisfactory manner. VOC limits shall be amended based on the results of the technology assessment.

<sup>b</sup> Based on California Air Resources Board Suggested Control Measure for Architectural Coatings, second draft - 6/10/99.

Note: Numbers in parentheses reflect total number of coatings or coating systems i.e. one top coat may be included with one or more primers to comprise separate multiple coating systems.

6/24/99

**DEPARTMENT OF TRANSPORTATION**

ENGINEERING SERVICE CENTER

OFFICE OF MATERIALS AND FOUNDATIONS - MS #5

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June 22, 1999

Mr. Jim Nyarady, Manager  
Strategy Evaluation Section  
Air Resources Board  
2020 L Street  
Sacramento, CA 95812

Dear Mr. Nyarady:

This correspondence contains a summary of Caltrans comments on the draft proposed changes to the Air Resources Board's (ARB) Suggested Control Measure for Architectural Coatings (SCM), and suggestions for modifications to the SCM. Caltrans believes these modifications are necessary so that we can continue to maintain structural steel bridges throughout California and prevent infrastructure deterioration.

18-1 Caltrans is responsible for the construction and maintenance of all state and federally designated highways throughout California, including over 1000 steel bridges spanning more than 20 feet. Caltrans shares the concerns of the ARB regarding the impact volatile organic compounds (VOC) contained in industrial maintenance coatings have on air quality. Since 1978, we have been striving to utilize protective coatings with VOC contents less than 250 g/L. This effort has entailed extensive evaluations of available low-VOC coatings from industrial coating suppliers and in-house formula development utilizing recommendations from raw material suppliers when available coatings have not met our requirements. Our efforts have been quite successful. Over 90% of the industrial maintenance coatings currently used by Caltrans meet the 7/1/2002 proposed limit. The average VOC for all of our industrial maintenance coating use for 1998 was less than 200 g/L. Unfortunately, despite our best efforts, we still need to use coatings with higher VOC levels for isolated areas on most structures and for structures located adjacent to the coast.

We currently have no replacement products for these higher VOC coatings. We estimate that it will take us a minimum of five to six years to evaluate and fully implement compliant coatings for these uses assuming such coatings are available today.



- 18-2
- Consequently, we request that the implementation date for the 250 g/L requirement be extended to January 1, 2005. This date should be contingent upon a thorough review to ensure acceptable performance of these coatings as applied under field conditions prior to the effective date. We further request a delay in implementing a reduction to 100 g/L until at least 2008 to allow sufficient time to evaluate compliant coatings without interfering with evaluations of the 250 g/L coatings.

18-3

If the implementation dates cannot be delayed, Caltrans has an alternative suggestion. The South Coast Air Quality Management District (SCAQMD) recently adopted modifications to Rule 1113 that contain an averaging provision that would allow manufacturers of protective coatings to offset sales of higher VOC coatings with sales of lower VOC coatings under specified procedures provided the average VOC for the affected coatings complies with specified requirements. This provision is of no benefit to Caltrans because as a public agency, we are required to have a minimum of three comparable materials for a contract. Additionally, specifications are normally developed from two to three years prior to bidding a contract. We would have no assurance that a coating that met the VOC limit based on an averaging provision when a specification was written would still be exempt when a contract was awarded.

- 18-4
- We could comply with the 250 g/L limit today if this provision were allowed for end users. The average VOC for all industrial maintenance coatings used by Caltrans in 1998 (approximately 90,000 gallons) was close to 170g/L. We would be willing to maintain and provide records of coating use to the ARB or local air pollution control district to show that the average VOC for our total coating use meets the specified limits.

Thank you for considering our comments and recommendations. If you have any questions concerning this letter, please contact me at (916) 227-7289 or by e-mail at [andy\\_rogerson@dot.ca.gov](mailto:andy_rogerson@dot.ca.gov).

Sincerely,



ANDY ROGERSON, Chief  
Chemical Testing Section

c: Paul Benson



# COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

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Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998  
Telephone: (310) 699-7411, FAX: (310) 695-6139

CHARLES W. CARRY  
*Chief Engineer and General Manager*

July 22, 1999

File No: 31-380.10B

Mr. Jim Nyarady  
Air Resources Board/Strategy Evaluation Section  
2020 L Street  
Sacramento, CA 95812

Dear Mr. Nyarady:

## Suggested Control Measure for Architectural Coatings

The County Sanitation Districts of Los Angeles County (LACSD) appreciate the opportunity to comment on the Suggested Control Measure for Architectural Coatings (SCM). LACSD staff participated in the public workshops and working group meetings for the recent amendments to SCAQMD Rule 1113. LACSD offers the following comments on the June 10, 1999 draft SCM.

19-1

As part of our effort to comply with Rule 1113, LACSD will evaluate the performance of low or zero VOC coatings used in the wastewater industry. LACSD will work with the SCAQMD in testing reformulated industrial maintenance coatings suitable for wastewater environments. Coatings that perform well at other industrial facilities, including water treatment environments, will not necessarily perform well at wastewater facilities due to the unique, severely corrosive conditions that can exist. Since we operate our facilities around the clock, 365 days a year, and our limited ability to remove equipment, we must use proven coatings.

19-2

If the low or zero VOC coatings tested perform satisfactorily in the laboratory and field tests, LACSD would incorporate these coatings into our coating specifications. However, if problems are discovered during testing, LACSD has received SCAQMD's assurance that Rule 1113 will be revised appropriately. The revisions would either raise the VOC content limits for the industrial maintenance coatings used in wastewater or create specific exclusions. The testing program should provide SCAQMD with information suitable for defending any revisions against backsliding inferences.

19-3

LACSD, on behalf of the wastewater industry, seeks ARB's assurance that the SCM will also be revised appropriately based on the outcome of the SCAQMD technology assessments.

19-4

This provision is included as footnote "c" to Table 1 in the June 10, 1999 draft and should be included in the final SCM. Furthermore, ARB should encourage all districts to revise their rule limits based on the results of the technology assessments.

LASCD looks forward to evaluating low or zero VOC coatings as part of SCAQMD technology assessments and reflecting the results in the SCM. If you have any questions, please contact Ms. Preeti Ghuman of this office at (562) 699-7411, extension 2138.

Yours very truly,

Charles W. Carry

*Gregory M. Adams*

Gregory M. Adams  
Assistant Departmental Engineer  
Office Engineering Department

GMA:PKG:tk

cc: Jack Broadbent  
Naveen Berry  
Brian Whitaker  
Blake Anderson

*James E. Nyarady*  
*S.K.*

July 21, 1999

Mr. Dean C. Simeroth, Chief  
Criteria Pollutants Branch  
Stationary Source Division  
Air Resources Board  
2020 "L" Street  
P. O. Box 2815  
Sacramento, California 95812

Multi-Agency Comments on the Suggested Control Measure for Architectural Coatings

Dear Mr. Simeroth:

This correspondence represents the collective comments to the Air Resources Board (ARB) on the draft 6/10/99 proposed changes to the Suggested Control Measure for Architectural Coatings (SCM) of four major California public agencies – the Metropolitan Water District of Southern California (Metropolitan), the California Department of Water Resources (DWR), the California Department of Transportation (Caltrans), and the Los Angeles Department of Water and Power (LADWP). Representatives of each agency have also met with ARB representatives (Don Ames, Jim Nyarady, Mike Jaczola) on June 23, 1999 to discuss the draft document. Metropolitan, DWR, and LADWP provide water for municipal and industrial use (approximately 1.8, 3.0, and 0.6 million acre-feet of water per year, respectively) and operate extensive systems of water conveyances, reservoirs, water treatment plants and power plants. In addition to water supply, LADWP is responsible for providing electric power to the residents and businesses of Los Angeles. Caltrans is responsible for construction of all State and Federally designated highways throughout California. MWD and Caltrans currently have laboratories which conduct technical assessments of coatings utilized on their public structures, the results of which are often relied upon by other related public entities. The comments herein reflect our common views and concerns as affected agencies located in the State of California.

MWD, DWR, Caltrans and LADWP are supportive of the efforts to reduce volatile organic compound (VOC) emissions from the application of architectural coatings. We recognize and appreciate ARB's efforts to harmonize the draft proposed SCM's provisions with existing related federal and regional regulations. However, as end-users of architectural/industrial maintenance (AIM) coatings on critical components of our public service systems, MWD, DWR, Caltrans and LADWP have concerns with respect to protecting this critical equipment from corrosion and having sufficient time to identify and test the lower VOC AIM coatings to determine their adequacy to replace existing high performing coatings. As an example, the SCAQMD Rule 1113, Architectural Coatings, addresses these concerns by identifying a contingency provision for "essential public service coatings" (EPSC). We are requesting that an EPSC provision also be provided in the SCM. The specific concerns and recommendations of MWD, DWR, Caltrans and LADWP are provided below.

**Available Replacement Coatings**

20-2

**Issue:** The draft proposed SCM includes the following: revised definition of "Industrial Maintenance Coatings"; and reduction of VOC limits in specific AIM categories, including Industrial Maintenance coatings (from 340 g/l to 250 g/l, effective July 1, 2002, and from 250 g/l to 100 g/l effective January 1, 2006). While supportive of the goal to reduce VOC emissions, as public agencies we have concerns regarding the timely availability of compliant coatings which meet field needs. A lack of coatings which have been demonstrated to perform comparably to existing products could conceivably result in the use of coatings which may not adequately protect and possibly result in accelerated damage to our public infrastructures (e.g., pipelines, water conveyance equipment, tanks, bridges, or electrical equipment). This would seriously impact our essential services to the public of reliable water and electric power delivery and highway integrity, as well as potentially affecting our mandate to minimize the occurrence of service interruptions.

20-3

Time is required to identify, and perform laboratory and field tests of new compliant coatings. Five to six years is required for this process. For example, the coating evaluation process of a first generation coating at Caltrans entails a laboratory screening and characterization, including a health and safety review (4 months), cyclic corrosion testing in the laboratory (8 months), field application tests (2 years), and specification development and implementation (1-2 years). Additionally, it has been MWD's experience that 80 % of the coatings tested in its Corrosion Control Laboratory do not meet MWD's performance standards and are rejected for poor performance reasons. Additionally, 75 % of the coatings tested by MWD do not meet the physical and performance characteristics stated in the manufacturer's technical product data sheets. To exemplify this, Attachment 1, the Table of Metropolitan Water District Coating Performance Testing Results, identifies five coatings that MWD has tested and rejected for performance reasons.

20-4

**Recommendation:** To provide adequate time for the identification and testing of lower VOC compliant coatings, we recommend that similar to SCAQMD Rule 1113, a category be established for EPSC with a modified interim VOC limit, but subject to the same final VOC limit and effective date as the Industrial Maintenance Coating category. These coatings would be defined as, "protective (functional) coatings applied to components of power, municipal wastewater, water, bridges and other roadways". The EPSC VOC limits and phased effective dates, would be: 340 g/l, date of adoption; 100 g/l, 7/1/2006 (adoption subject to the results of the scheduled SCAQMD technology assessments). Attachment 2 provides information regarding affected coating applications which are critical to our services.

Again, by establishing this modified interim limit, adequate time would be provided to test the new coatings. Once the test results identify satisfactory lower VOC coatings, these new coatings will be incorporated into our agencies' operations as replacements for the comparable higher VOC coatings. We do not envision exercising the EPSC option unless necessary (e.g., suitable lower VOC coatings cannot be identified). Additionally, it should be noted that as Essential Public Service Agencies, MWD, DWR, Caltrans, and LADWP are committed to participating in the technical assessments with SCAQMD staff, as directed by the SCAQMD Board Resolution No. 99. We are prepared to meet with SCAQMD staff and other interested public agencies in the next few weeks to begin planning of the technical assessments.

Mr. Dean C. Simeroth, Chief

Page 3

July 21, 1999

**2) Available Repair Coatings**

20-5

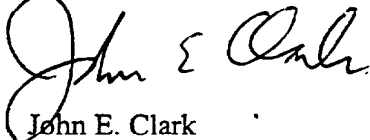
**Issue:** Currently, Metropolitan, DWR, Caltrans and LADWP have structures that are coated with solvent borne coatings. Over time, these structures will require patch repair and maintenance using a compatible coating system. In order to maintain manufacturer warranty of the coating, the same solvent borne coating that was originally applied, or a repair coating approved by the manufacturer would need to be utilized. Once the proposed SCM becomes effective, these coatings may not meet the required VOC limits. The alternative to utilizing the original coating would be complete removal and recoating (primer, intermediate and topcoat) of the entire structure, which will result in release of a higher VOC volume overall.

20-6

**Recommendation:** The proposed EPSC category and modified interim VOC limit will help ameliorate this concern regarding touch-up and repairs of the existing higher VOC coatings. In addition, as discussed with SCAQMD staff, the cooperative public services technical assessment will include evaluation of the new coatings' compatibility with existing coatings.

Thank you again for the opportunity to comment on the draft proposed SCM and to meet with ARB representatives to discuss our collective agencies' concerns. If you have any questions regarding these comments, please contact any of the representatives identified below.

Very truly yours,



John E. Clark

Manager, Regulatory Affairs Branch

Metropolitan Water District of Southern California

(213) 217-5504

Mr. Dean C. Simeroth, Chief

Page 4

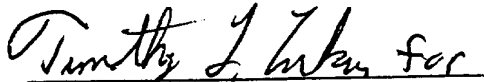
July 21, 1999



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CYK/lov-R-99-160

cc: Donald J. Ames, P.E.  
Assistant Chief

✓ James E. Nyarady, P.E.  
Manager  
Strategy Evaluation Section

Michael P. Jaczola  
Staff Engineer

## Attachment 1

Table of Metropolitan Water District Coating Performance Testing Results  
(Page 1 of 2)

Coating Type	Manufacturer's Description of Performance and Characteristics	VOC (g/l)	Substrate & Prep	Primer	Test Protocol	Test Duration	Evaluation Results	Remarks Regarding Coating Performance
#101 Two Component Elastomeric Polyurethane Rubber Coating System	Outstanding abrasion resistance, tensile strength and hydrolytic stability	2.4 g/l	Concrete SSPC-7	Polyamide epoxy sealer	Immersion - Untreated Water ASTM D-870 (Modified)	23 months	Failure Mode: Severe color fade; surface cracking; osmotic blistering	Unacceptable: adhesion, color retention, & resistance to permeability
					Immersion - Demin. Water ASTM D-870 (Modified)	23 months	Failure Mode: Severe color fade; surface cracking; osmotic blistering	Unacceptable: adhesion, color retention, & resistance to permeability
					Immersion - Filtered Water ASTM D-870 (Modified)	23 months	Failure Mode: Severe color fade; surface cracking; osmotic blistering	Unacceptable: adhesion, color retention, & resistance to permeability
					Atmospheric ASTM G-7	18 months	Failure Mode: Severe discoloration	Unacceptable: color retention & resistance to weathering
			Steel Panel SSPC-5	Polyurethane primer	Immersion - Untreated Water ASTM D-870 (Modified)	27 months	Failure Mode: Moderate color fade; surface cracking; osmotic blistering, disbonding	Unacceptable: adhesion, poor color retention, & resistance to permeability
					Immersion - Filtered Water ASTM D-870 (Modified)	27 months	Failure Mode: Moderate color fade; surface cracking; osmotic blistering, disbonding	Unacceptable: adhesion, poor color retention, & resistance to permeability
					Immersion - Finished Water ASTM D-870 (Modified)	23 months	Failure Mode: Moderate color fade; surface cracking; osmotic blistering, surface deterioration & disbonding	Unacceptable: adhesion, poor color retention, & resistance to permeability
					Atmospheric ASTM G-7 (Modified)	21 months	Failure Mode: Moderate discoloration; surface etching; surface cracking/checking	Unacceptable: color retention & resistance to weathering
					High Humidity ASTM D-2247 (Modified)	4 months	Failure Mode: Heavy rust formation at X, rust formation at edge radii	Unacceptable: resistance to moisture permeability
					Cathodic Disbonding ASTM G-8 (Modified)	4 months	Polarization established - coating in good condition	Coating passed 120 day exposure CDT test
					Atmospheric ASTM G-7 (Modified)	17 months	Failure Mode: Moderate discoloration, loss of 30% gloss	Unacceptable: gloss and color retention & resistance to weathering
					Weatherometer ASTM D-2363 (Modified)	1600 hours	Failure Mode: surface etching, moderate darkening, small osmotic blisters, 50 loss of gloss	Unacceptable: gloss and color retention, resistance to weathering permeability
					Atmospheric ASTM G-7 (Modified)	17 months	Failure Mode: Moderate discoloration, loss of 40% gloss	Unacceptable: gloss and color retention & resistance to weathering
					High Humidity ASTM D-2247 (Modified)	4 months	Failure Mode: rust formation at X, rust formation at edge radii, small osmotic blisters	Unacceptable: adhesion and resistance to moisture permeability & color retention
#102 Two component water based epoxy coating	High performance exterior industrial maintenance enamel. Chemical, abrasion, & impact resistance	176	Steel Panel SSPC-5 (abrasive blasted)	Zinc rich water based epoxy	Weatherometer ASTM D-2363 (Modified)	1600 hours	Failure Mode: surface etching, moderate darkening, small osmotic blisters, 65% loss of gloss	Unacceptable: gloss and color retention, resistance to weathering
					Catalyzed epoxy	17 months	Failure Mode: surface etching, mod. darkening, small osmotic blisters, 65% loss of gloss	Unacceptable: gloss and color retention, resistance to weathering
					DTM acrylic gloss primer	17 months	Failure Mode: Moderate discoloration, loss of 30% gloss	Unacceptable: gloss and color retention & resistance to weathering



Attachment 1

Metropolitan Water District Coating Performance Testing Results  
(Page 2 of 2)

Coating Type	Manufacturer's Description of Performance and Characteristics	VOC (g/l)	Substrate & Prep	Primer	Test Protocol	Duration	Evaluation Results	Remarks Regarding Coating Performance
#103 Water reducible, 100% acrylic gloss coating (DTM).	Corrosion resistant coating, excellent moisture resistance, excellent exterior durability	208 g/l	Steel Panel SSPC-5	DTM	Atmospheric ASTM G-7	17 months	Failure Mode: moderate discoloration, acceptable gloss retention, tiny rust spots.	Unacceptable: color retention & resistance to weathering.
					Weatherometer ASTM D-2363 (Modified)	1600 hours	Failure Mode: slight darkening, 5% loss of gloss	Acceptable: gloss and color retention, & acceptable resistance to weathering.
					High Humidity ASTM D-2247 (Modified)	4 months	Failure Mode: heavy rust formation at X, moderate rust formation all surfaces, osmotic blistering.	Unacceptable: adhesion & resistance to moisture permeability
					Weatherometer ASTM D-2363 (Modified)	1600 hours	Failure Mode: moderate darkening blisters, 5% loss of gloss	Acceptable: gloss and color retention
					Atmospheric ASTM G-7 (Modified)	19 months	Failure Mode: slight discoloration, 16% loss of gloss.	Acceptable: color retention & acceptable resistance to weathering
					Cathodic Disbonding ASTM G-8 (Modified)	4 months	Polarization established - coating in good condition	Coating passed 120 day exposure CDT test
					Immersion - Untreated Water ASTM D-470 (Modified)	25 months	Failure Mode: severe darkening.	Unacceptable: color retention.
					Immersion - Filtered Water ASTM D-470 (Modified)	25 months	Failure Mode: severe darkening	Unacceptable: color retention.
					Immersion - Finished Water ASTM D-470 (Modified)	25 months	Failure Mode: severe darkening; surface deterioration; osmotic blistering	Unacceptable: adhesion, color retention; resistance to moisture permeability & chemical exposure.
					High Humidity ASTM D-2247 (Modified)	4 months	Coating in good condition	Acceptable short term resistance to moisture permeability.
#104 100% solids aromatic elastomeric urethane coating	Coating is designed for immersion in potable water, salt water, and aqueous chemical solutions	0	Concrete SSPC-7 And Steel Panel SSPC-5	Epoxy Primer	Cathodic Disbonding ASTM G-8 (Modified)	4 months	Polarization established, however coating developed osmotic blisters and delamination from substrate.	Unacceptable: adhesion, resistance to moisture permeability, & failed CDT test (ASTM G-8)
					ASTM D-2247 (Modified)	4 months	Failure Mode: Coating delaminated from substrate.	Coating exhibited unacceptable stability under conditions of high water flow.
					Cavitation Test Chamber - stability under conditions of high velocity water flow.	24 hours	Failure Mode: Coating delaminated from substrate.	Coating exhibited unacceptable stability under conditions of high water flow.
					Atmospheric ASTM G-7	20 months	Failure Mode: moderate discoloration, extensive rust formation.	Unacceptable: color retention, & resistance to weathering.
					High Humidity ASTM D-2247 (Modified)	4 months	Coating formed osmotic blisters, extensive rust spot, moderate darkening.	Unacceptable: color retention, resistance to weathering, & unacceptable resistance to moisture permeability
#105 Acrylic primer coating	Premium anti-corrosion industrial maintenance primer for interior and exterior metal surfaces.	250	Steel Panel SSPC-5	DTM				

## Attachment 2

### MWD, DWR, Caltrans, LADWP Critical Application Usage Information

	Critical Application	VOC (avg) g/l	Estimated Quantity Used (gal/Year)
20-7	1. Areas on structural steel bridges where severe corrosion is occurring at back-to-back plates or connections.	250-300 (Caltrans)	3000 (Caltrans)*
20-8	2. Structural steel bridges that are within one to fifteen miles from the California coastline, estuaries or bays (structures in environments with coastal fog influence more than six months per year).	300-340 (Caltrans)	7500 (Caltrans)*
20-9	3. Exterior of structures that contain, store and convey potable water or source waters as required and defined by the United States Environmental Protection Agency (U.S. EPA) and California Department of Health Services (DHS) Standards, such as pumps, pump housings, electrical control and generation equipment, tanks, containment facilities, bridge structures, pipelines, control gates, or pressure control structures.	290-340 (MWD) 356 (DWR)	4000 (MWD)* 580 (DWR)*
20-10	4. Structures that come into direct contact with static, low flow, and high velocity (cavitation) potable water or source waters as required and defined by U.S. EPA and DHS Standards, such as tank interiors, pipelines, pumps, power generation equipment, canals, channels, or water treatment structures.	200-390 (MWD) 292 (DWR) 391-410 (LADWP)*	3766 (MWD)* 1275 (DWR)* 1,200 (LADWP)**
20-11	5. Structures that come into direct contact with chemicals designed to treat potable water or source waters as required and defined by U.S. EPA and DHS Standards, such as tank interiors, pipelines, pumps, or chemical injection structures.	200-280 (MWD) 285 (DWR)	2880 (MWD)* 125 (DWR)*
20-12	6. Electrical power conveyance system of pole top/vault /generating station transformers, voltage regulators, circuit breakers, bus, and other related electrical equipment.	420 (LADWP)* 330 (DWR)	1,380-13,000 (LADWP)** 200 (DWR)*
20-13	7. Generating stations' equipment (excluding electrical) including motors, pumps, piping, structural steel, tanks, and other related equipment.	220-420 (LADWP)*	2,020 (LADWP)**

\* Reflects usage within the State of California

\*\* Reflects usage within the South Coast Air Quality Management District Basin

**DEPARTMENT OF WATER RESOURCES**

1416 NINTH STREET, P.O. BOX 942836  
SACRAMENTO, CA 94236-0001  
(916) 653-5791



July 13, 1999

*[Handwritten signature]*  
*JN*

Dean C. Simeroth, Chief  
Criteria Pollutants Branch  
Stationary Source Board  
Air Resources Board  
2020 L Street  
Post Office Box 2815  
Sacramento, California 95812

Dear Mr. Simeroth:

Suggested Control Measures for Architectural Coatings

The California Department of Water Resources operates and maintains the State Water Project which consists of 662 miles of water conveyance systems, 21 reservoirs, 9 powerplants, and 17 large pumping plants located throughout California. These facilities deliver about 3.0 million acre-feet of water a year for municipal, industrial and agricultural use (1 acre-foot = 325,900 gallons) and could deliver up to 4.2 million acre-feet per year.

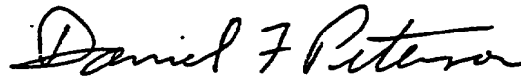
DWR recognizes and supports the California Air Resources Boards effort to develop a "Suggested Control Measures" provision to comply with the existing federal and regional regulations for reducing volatile organic compound emissions from architectural/industrial maintenance coatings. However, as an end-user of AIM Coatings on critical components of DWR's delivery systems, there is a major concern with the availability of satisfactory compliant AIM coatings. Loss of use of current coatings would result in accelerated damage to pipelines and machinery used to convey water or generate power and jeopardizing reliable water and power delivery throughout California.

Therefore, DWR suggests that the proposed SCM follow the South Coast Air Quality Management District's amendment to Rule 1113, Architectural Coatings and provide a provision for "essential public services coatings." This provision would allow time to identify, perform laboratory and field tests of new compliant coatings.

Dean C. Simeroth, Chief  
July 13, 1999  
Page Two

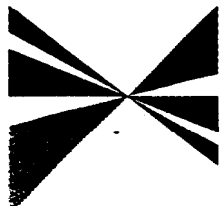
Thank you for your consideration and if you have any questions, please call John Frantz, Chief of Corrosion Engineering, at (916) 653-1328 or me at (916) 653-9978.

Sincerely,

A handwritten signature in cursive script that reads "Daniel F. Peterson". The signature is written in black ink and is positioned above the printed name and title.

Daniel F. Peterson, Chief  
Environmental Assessment Branch  
Division of Operations and Maintenance

SOUTHERN CALIFORNIA



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GOVERNMENTS**

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Ventura County: Judy Mikels, Ventura County • Donna De Paula, San Buenaventura • Andrew Fox, Thousand Oaks • Tom Young, Port Hueneme

Riverside County Transportation Commission: Robin Lowe, Hemet

Ventura County Transportation Commission: Bill Davis, Simi Valley

June 25, 1999

Mr. Jim Nyarady  
Manager, Strategy Evaluation Section  
Stationary Source Division  
Air Resources Board  
2020 L Street, P. O. Box 2815  
Sacramento, CA 95812

RE: SCAG Clearinghouse #19900309 Notice of Preparation of a  
Draft Program EIR for Suggested Control Measure for  
Architectural Coatings

Dear Mr. Nyarady:

22-1

We have reviewed the above referenced document and determined that it is not regionally significant per Areawide Clearinghouse criteria. Therefore, the project does not warrant clearinghouse comments at this time. Should there be a change in the scope of the project, we would appreciate the opportunity to review and comment at that time.

A description of the project will be published in the July 1, 1999 Intergovernmental Review Report for public review and comment.

The project title and SCAG Clearinghouse number should be used in all correspondence with SCAG concerning this project. Correspondence should be sent to the attention of the Clearinghouse Coordinator. If you have any questions, please contact me at (213) 236-1917.

Sincerely,

J. DAVID STEIN

Manager, Performance Assessment  
and Implementation

JDS:lj

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## **RESPONSES TO COMMENTS ON THE NOP/IS**

<b>Comment Letter #1:</b>	<b>Kessler &amp; Associates, Inc.</b>
<b>Comment Letter #2:</b>	<b>Sherwin-Williams</b>
<b>Comment Letter #3:</b>	<b>National Paint &amp; Coatings Association</b>
<b>Comment Letter #4:</b>	<b>Painting and Decorating Contractors of America</b>
<b>Comment Letter #5:</b>	<b>Society for Protective Coatings</b>
<b>Comment Letter #6a:</b>	<b>Law Offices of Smiland &amp; Khachigian</b>
<b>Comment Letter #6b:</b>	<b>Law Offices of Smiland &amp; Khachigian</b>
<b>Comment Letter #7:</b>	<b>Textured Coatings of America</b>
<b>Comment Letter #8:</b>	<b>Ameron International</b>
<b>Comment Letter #9:</b>	<b>Euclid Chemical Company</b>
<b>Comment Letter #10:</b>	<b>The Valspar Corporation</b>
<b>Comment Letter #11:</b>	<b>Sierra Performance Coatings</b>
<b>Comment Letter #12:</b>	<b>Flame Control Coatings, Inc.</b>
<b>Comment Letter #13a:</b>	<b>Wm. Zinsser &amp; Co., Inc.</b>
<b>Comment Letter #13b:</b>	<b>Wm. Zinsser &amp; Co., Inc.</b>
<b>Comment Letter #13c:</b>	<b>Wm. Zinsser &amp; Co., Inc.</b>
<b>Comment Letter #14:</b>	<b>Zehrung Brands</b>
<b>Comment Letter #15:</b>	<b>Akzo Nobel</b>
<b>Comment Letter #16:</b>	<b>TruServ</b>
<b>Comment Letter #17:</b>	<b>Metropolitan Water District of Southern California</b>
<b>Comment Letter #18:</b>	<b>State of California, Department of Transportation</b>
<b>Comment Letter #19:</b>	<b>County Sanitation Districts of Los Angeles County</b>
<b>Comment Letter #20:</b>	<b>Multi-Agency</b>
<b>Comment Letter #21:</b>	<b>Department of Water Resources</b>
<b>Comment Letter #22:</b>	<b>Southern California Association of Governments</b>

ARB received a total of 24 comment letters from 22 different commenters on the NOP/IS for the architectural coatings SCM during the 30-day comment period. Additionally, ARB received one comment letter on the NOP/IS outside the 30-day comment period. Furthermore, ARB received some CEQA-related comments during the June 3, July 1, and September 8, 1999, public workshops.

Many of the comments submitted by the various commenters were not specifically CEQA-related; rather the comments were directed to the scope and structure of the SCM. However, the comment letters and responses to the comments contained in the 24 total comment letters as well as responses to CEQA-related public workshop comments are contained herein.

**COMMENT LETTER #1**  
**Kessler & Associates, Inc.**  
**July 12, 1999**

- 1-1. Comment: Reducing VOCs from paints under certain circumstances could actually contribute to ozone nonattainment because of the concept of negative reactivity.

Response: ARB staff disagrees with the commenter's implication that ARB's mass VOC emission control strategy may be counterproductive to ozone reduction. As discussed in detail in the More Reactivity section of Chapter IV in the Draft Program EIR, the ARB staff disagrees with the conclusion that VOC control contributes to ozone nonattainment. Industry's statement that VOC control causes more ozone has not been substantiated under real world atmospheric conditions. Moreover, the atmospheric conditions (characterized by very high VOC-to-NO<sub>x</sub> ratios) that must exist in order for VOC control to exhibit an enhancing effect on ozone formation are not likely to occur in urban centers.

- 1-2. Comment: The SCM should be postponed until ozone chamber studies are conducted. Congress mandated that this chamber be utilized to determine if and when the reduction of VOCs in paint is warranted.

Response: The commenter is referred to the discussion of this issue in the More Reactivity section in Chapter IV of the Draft Program EIR. Also, see Chapter V, Section B of the Draft Program EIR. The objectives of the next-generation chamber are to evaluate gas-phase and gas-to-particle atmospheric reaction mechanisms for determining secondary aerosol yields, and to measure VOC reaction products and radical and NO<sub>x</sub> indicator species under more realistic environmental conditions (specifically, lower NO<sub>x</sub> environments) (Congressional Record, 1998.) The new chamber may also improve the reactivity assessments of larger VOC species (C<sub>10</sub>-C<sub>12</sub>) that, using current methodologies, tend to stick to chamber walls before they can participate in gas-phase reactions. Dr. William Carter, the lead researcher on the project, has stated that conclusive and complete experimental results from the next-generation chamber will not be available for several years.

Given the timeframes for the additional reductions from architectural coatings, development of the SCM cannot be delayed until improved reactivity data are available (Federal Register, 1997). As explained in the More Reactivity section of Chapter IV, the evidence demonstrates that mass-based controls are effective in reducing ozone, so there is no reason to wait for additional reactivity data to be generated.

- 1-3. Comment: A statewide SCM approach may be counter-productive for several reasons: (1) differences in reactivity among different areas; (2) differences in air quality problems among areas; (3) differences in uses/needs/exposure for architectural coatings; (4) different meteorological conditions; and (5) the necessity to have "stringent and extreme cost-ineffective rules."



Response: The ARB staff disagrees with the commenter's assertion that the SCM could be counter-productive on a statewide basis.

Regarding reactivity, the commenter is referred to the More Reactivity section in Chapter IV of the Draft Program EIR.

The commenter's four remaining assertions can be collapsed into one general comment that the Program EIR must evaluate the SCM's effects in each air district. The Program EIR does, to the maximum extent feasible, analyze the SCM's effects in each air district. For example, in the air quality existing setting section of Chapter III, the Draft Program EIR discusses the current air quality status and different meteorological conditions of the various air basins and regions of the State.

The general cost-effectiveness of the SCM will be addressed in the ARB staff's economic analysis, which will be completed and made publicly available before the Board considers the adoption of the SCM in May 2000. However, it will be up to each air district to decide if the SCM is needed within their jurisdiction. Districts are well-equipped to make this decision, because the districts have undertaken extensive air quality planning to meet their responsibilities under the federal and California Clean Air Acts. It will also be up to each district to decide if the environmental analysis in the Program EIR (as well as the ARB staff's economic analysis) is adequate for use in the district's rulemaking, or if any additional analysis may be necessary to address any factors that are specific to the individual district.

The ARB intends that each district may rely on the Program EIR by incorporating it by reference in whatever CEQA documents a district chooses to prepare for its own architectural coatings rule. For example, a district could use the ARB's SCM Program EIR to provide the basis for an initial study for determining whether the district's version of the SCM may have any significant effects. The district might then decide to prepare a negative declaration (if the district believes that the Program EIR appropriately analyzes the environmental impacts of adopting the SCM in that district) or a focused EIR (if, for example, the district believes that additional analysis may be necessary beyond the analysis contained in the Program EIR, in order to address factors that are specific to the individual district and may not have been fully considered in the Program EIR). Therefore, it will be up to each air district to decide on the best way to comply with CEQA for their particular circumstances. The ARB's SCM Program EIR will simply be available for whatever use the district feels is appropriate.

- 1-4. Comment: The SCM targets VOC content rather than regulating VOC emissions. VOCs do not contribute equally to ozone formation. Test Method 24 should be modified to be more accurate.

Response: The commenter is referred to the discussion on LVP-VOC in Chapter V of the Draft Program EIR. The More Reactivity section in Chapter IV of the draft Program EIR also contains a discussion of atmospheric chemistry. The ARB staff maintains that VOC

content is a good indicator of emissions, since VOCs in architectural coatings are intended to evaporate as the paint dries and forms a film.

With regard to the comment that all VOCs may not contribute equally to ozone formation (*i.e.*, have different reactivities), the commenter is referred to the response to comment #1-1 and the More Reactivity section in Chapter IV.

Regarding the commenter's assertion that Method 24 must be modified to more accurately measure VOC emissions from paints, the commenter is referred to the LVP-VOC section in Chapter V of the draft Program EIR. ARB staff believes that Method 24 is a viable test method for measuring the VOC emissions associated with the VOC content limits advocated in the proposed SCM.

- 1-5. Comment: Because of the environmental, ecological, and meteorological variations throughout the state, the districts will be unable to rely on the Program EIR as their CEQA document without substantial modifications.

Response: ARB staff disagrees with this comment for several reasons. First, to the maximum extent feasible, the Program EIR does analyze the various environmental, ecological, and meteorological conditions throughout the state. The commenter is referred to the response to comment #1-3.

Second, many of the impact areas (odors, water resources, transportation/circulation, public services, solid waste/hazardous waste, hazards) analyzed will result in the same or similar potential impacts in each air district. In other words, these potential impacts are the same whether they occur in San Diego or Sacramento.

Third, if an air district believes that additional analysis is required for a specific environmental impact area, the air district may decide to tier off the SCM Program EIR and undertake a focused EIR for that specific environmental impact area. Under this approach, the air district's resources could be effectively and efficiently devoted to analyzing this particular impact area, which takes substantially less time than preparing a full, comprehensive EIR. Thus, the Program EIR provides a useful and timesaving tool for aiding air districts in analyzing the environmental impacts associated with the proposed SCM.

- 1-6. Comment: On page 1-1 to 1-2, the NOP/IS contains the following text,

“[T]he CEQA Guidelines (see title 14, CCR, §15168) allow a lead agency to prepare a Program EIR for a series of actions that can be characterized as one large project and are related either: (1) geographically, (2) as logical parts in a chain of contemplated actions, or (3) in connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program.”

Response: The commenter argues that the SCM does not represent one large statewide project but rather a series of smaller projects. The commenter basis its argument on three premises: (1) the NOP states that individual air districts will have to decide the environmental impact of the rule; (2) the SCM may or may not be adopted by individual air districts; and (3) the rule that each air district adopts may differ significantly from the SCM.

The ARB staff disagrees with the commenter's characterization that the SCM amounts to a series of small projects. The project is the use of a model rule to obtain needed VOC emission reductions that will help individual air districts meet SIP requirements and consequently provide California as a whole with cleaner, healthier air. Viewed in this context, the proposed SCM is one large interrelated project.

The commenter also misconstrues the purpose of the Program EIR. As mentioned in the NOP/IS and further expanded upon in Chapter I of the Draft Program EIR, the SCM is designed as a model rule to be adopted by local districts throughout the state of California. For projects such as the ARB's architectural coatings SCM, which is specifically designed to be subsequently adopted by the districts as a local district rule, an environmental analysis in the form of a Program EIR provides the CEQA framework that can be relied upon by the districts when adopting ARB's SCM. With this particular SCM, it is important that the districts be provided with an environmental analysis format that will be consistent with, and more easily incorporated into, their own CEQA compliance process. Using a Program EIR format will accomplish this goal. Therefore, the fact that some air districts might choose to undertake a focused EIR to analyze a specific environmental topic does not undermine the use of the Program EIR or the view that the SCM is one large project.

Furthermore, the fact that an air district has the discretion to adopt the SCM verbatim, adopt a slightly different version of the SCM, or not adopt the SCM at all does not equate to the commenter's implication that the use of a Program EIR is not appropriate. Since the Program EIR takes a worst-case approach in analyzing the impacts associated with the implementation of the SCM on an individual air district basis as well as a statewide basis, as long as the air district's proposed rule is within the scope of the SCM project, the Program EIR can be used as the basis for the air district's CEQA analysis. Thus, an air district's tiering off the ARB's architectural coatings SCM Program EIR to conduct a focused EIR is consistent with CEQA.

It is the position of the California Air Pollution Control Officers Association (CAPCOA) that all California districts should strive to adopt their architectural coatings rule within 12 to 18 months of approval of the SCM by ARB. CAPCOA also recommends that the EIR developed by ARB should be completed and available for the districts to use (CAPCOA, Statement of Principles and Positions on Architectural Coatings Regulations, October 28, 1999).

- 1-7. Comment: This comment is a continuation of the commenter's mischaracterization of the quoted text shown in response to comment #1-6. The commenter argues that the SCM is

not part of a chain of actions (adopting the SCM is at the discretion of each air district) nor is it a continuing program (ARB does not have direct authority to regulate VOCs from architectural coatings).

Response: The ARB disagrees with the commenter's assertion that the project (the SCM as a model rule used to achieve VOC reductions) is not geographically related since it does not take into account the reactivity needs of each air district. As explained in the More Reactivity section of Chapter IV of the Draft Program EIR, the ARB has determined that a mass-based approach to the SCM is an appropriate way to reduce ozone, and that this approach will work throughout California despite any differences in reactivity that may exist in different air basins. The commenter is referred to the response to comment #1-1 for further elaboration on this issue.

Furthermore, the air districts are geographically related. The air districts are in close proximity to one another, within air basins that are situated next to one another, and there is a consequential statewide air quality benefit of VOC reductions obtained in the individual air districts as a result of implementing the SCM in some form.

The SCM is intended to serve as a model rule that will improve the clarity and enforceability of existing district architectural coatings rules, and provide a basis for uniformity among architectural coatings rules in California. The SCM is designed to be considered by air districts in California when adopting or amending architectural coatings rules. The very nature of the SCM allows individual air districts to use their discretion in adopting the SCM in whole or in part. Thus, an air district when adopting the SCM in whole or in part is undertaking an action consistent with the SCM.

Although, under California law, the air districts have the primary legal authority for adopting control measures for architectural coatings (see Health and Safety Code, §§39002, 40000, and 40001), this does not undermine the fact that the SCM is part of an ongoing program. The ARB has had an SCM for architectural coatings in place since 1977, which was amended and updated in 1981, 1984, and 1989. The proposed SCM will revise and update the 1989 SCM to reflect developments in coatings technology that have occurred since 1989. Therefore, this SCM is part of a continuing program, which is intended to serve as a model rule that will improve the clarity and enforceability of existing district architectural coatings rules, provide a basis for uniformity among architectural coatings rules in California, and achieve significant VOC emission reductions statewide.

The ARB disagrees with the commenter's blanket assertion that a Program EIR is not the appropriate CEQA document for the proposed SCM. The CEQA Guidelines, in reference to §15168, indicates that "[t]he program EIR can be used effectively with a decision to carry out a ... governmental program or to adopt a ... body of regulations in a regulatory program. The program EIR enables the agency to examine the overall effects of the proposed course of action and to take steps to avoid unnecessary adverse environmental effects." The ARB's Draft Program EIR for the architectural coatings SCM is consistent with the spirit of the Program EIR section in the CEQA Guidelines.

- 1-8. Comment: The desire to maintain uniformity in district architectural coatings rules will overlook the specific reactivity needs of the different airsheds.

Response: This comment is addressed in the response to the previous comment. The commenter is also referred to the response to comment #1-1 for further elaboration on this issue, to the More Reactivity section in Chapter IV, and the discussion of the reactivity-based alternative in Chapter V of the Draft Program EIR.

- 1-9. Comment: The proposed alternatives listed in the NOP/IS should be included and considered in the Program EIR.

Response: In the Draft Program EIR, ARB staff has reviewed the feasibility of each suggested alternative. One of the alternatives, product line averaging, was considered but has not been incorporated into the SCM. The basis for not including an averaging provision in the SCM at this time is described in Chapter V of the Draft Program EIR. For a detailed discussion of the feasibility of the remaining alternatives listed in the NOP/IS, the commenter is referred to Chapter V of the Draft Program EIR.

- 1-10. Comment: The project alternatives outlined in the NOP/IS, specifically the averaging provision, are necessary for industry to meet the proposed SCM content limits because they provide paint manufacturers with the flexibility to produce high-quality coatings that maintain desired performance characteristics.

Response: At the time the commenter made this comment, the SCM contained both interim and final VOC content limits. Since that time, the SCM has been revised such that it now only contains the interim limits. Based on the ARB's 1998 Architectural Coatings Survey as well as its review of hundreds of compliant product data sheets, a large percentage of low-VOC compliant coatings are now commercially available to meet the proposed interim VOC content limits. Accordingly, the ARB staff believes that an averaging provision is not necessary for coatings formulators to meet the interim VOC content limits. Nonetheless, the ARB staff is considering including an averaging provision in the final SCM. The commenter is also referred to the response to comment #1-9.

- 1-11. Comment: The ARB should include a technology assessment provision whereby air districts adopting rules based on the SCM would be required to conduct technology assessments prior to the VOC content limits going into effect.

Response: Based on the ARB's 1998 Architectural Coatings Survey as well as its review of hundreds of compliant product data sheets, a large percentage of low-VOC compliant coatings are now commercially available to meet the proposed interim VOC content limits. The commenter is referred to the response to comment #1-10.

Even though the ARB staff believes that compliant coatings are available to meet the SCM limits, we are committed to working with the SCAQMD, other interested districts,

and the architectural coatings industry as they conduct technology assessments of the future VOC limits for the following coatings categories in the SCAQMD's Rule 1113: flats; floor coatings; IM coatings; nonflats; primers, sealers, and undercoaters; quick-dry enamels; quick-dry primers, sealers, and undercoaters; rust preventative coatings; stains; and waterproofing sealers for wood. These technology assessments will be completed one year prior to the implementation dates for the revised standards. Since the ARB staff will be conducting the assessments, we do not believe that it is necessary to include a technology assessment provision in the SCM, which is designed for adoption as a district rule. After each technology assessment, the ARB staff will report the results to the staff of each district, and district staff can then report to their District Governing Boards as to the appropriateness of maintaining the applicable future VOC limits.

- 1-12. Comment: The Program EIR should evaluate the possibility that limiting solvent content in coatings formulations may actually increase the formation of ground-level ozone. Furthermore, a reactivity-based regulatory approach is consistent with the mandates of the federal Clean Air Act (section 183(e)).

Response: The Draft Program EIR comprehensively evaluates the potential negative ozone reactivity of coatings reformulations as well as a reactivity-based VOC regulatory approach. The commenter is referred to the More Reactivity section of Chapter IV and the discussion of the reactivity-based alternative in Chapter V in the Draft Program EIR, as well as responses to comments #1-1 and #1-4.

- 1-13. Comment: The commenter indicates that it has developed/obtained data that supports a reactivity-based SCM.

Response: To date, the commenter has not shared this information with the ARB staff. The commenter is referred to the More Reactivity section of Chapter IV and the discussion of the reactivity-based alternative in Chapter V in the Draft Program EIR as well as responses to comments #1-1 and #1-4.

- 1-14. Comment: The ARB should not take a statewide regulatory approach, but rather tailor the SCM to optimize environmental benefits and costs associated with regional differences.

Response: ARB staff assumes that the commenter is addressing the NOP/IS alternative, Regional Deregulation. As explained in Chapter V of the Draft Program EIR, the ARB staff finds that this alternative is not feasible. Briefly, the reasons for this determination are: (1) it would be extremely difficult, if not impossible, to determine the effectiveness of such an alternative, and (2) such an approach would have severe enforcement problems.

- 1-15. Comment: Because the SCAQMD could not measure VOC reductions from a source as small as the architectural coatings category in its UAM modeling, implementation of the SCM may not result in a measurable reduction in ozone formation.



Response: The ARB staff disagrees with the commenter's assertion that limiting the VOC content of architectural coatings may not reduce ozone formation. The commenter is referred to the More Reactivity section of Chapter IV in the Draft Program EIR, as well as responses to comments #1-1 and #1-4.

The fact that the SCAQMD's UAM may not have demonstrated measurable changes in ozone formation from reducing the VOC content of architectural coatings does not mean that the proposed SCM will not reduce VOCs that contribute to ozone formation. The UAM is a photochemical grid model that numerically simulates the effects of emissions, advection, diffusion, chemistry, and surface removal processes on pollutant concentrations within a three-dimensional grid. Because the model is designed to estimate ozone effects for a particular air basin, the sensitivity of the model is such that a specific emissions category may not make a measurable change when varied in the model. Further, ambient air quality data over the last 20 years indicates that reductions in VOC emissions along with reductions in NO<sub>x</sub> emissions contribute to lower ozone levels. Thus, the ARB staff will continue to pursue a mass VOC-based regulatory approach, as described in the proposed SCM, for obtaining needed VOC reductions from architectural coatings.

- 1-16. Comment: The air quality analysis contained in the Program EIR should also consider the levels of ozone nonattainment in the 35 different California air districts.

Response: The ARB staff has considered the ozone attainment status of each of the 15 air basins containing California's 35 air districts. The commenter is referred to the Air Quality sections of Chapters III and IV in the Draft Program EIR as well as the responses to comments #1-3 through #1-6.

- 1-17. Comment: The NOP/IS states that there is no possibility that there will be a significant (negative) impact on air quality; this is inconsistent with the statements in the NOP/IS that the "seven deadly sins" will be analyzed.

Response: The ARB staff assumes that the commenter is referring to the impacts on air quality section of the environmental checklist in which no impact was identified for a "...cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment...." A definitive statement would be premature until the appropriate air quality analysis is completed, but focusing on the word "considerable," we believe that there will be no "considerable" impact on criteria pollutants. In the NOP/IS, air quality was identified as one of the six potential impact areas that would be analyzed in the Draft Program EIR. The NOP/IS further indicated that the ARB staff would analyze the air quality issues raised by industry in the past (the "seven deadly sins" and reactivity). This comprehensive analysis is contained in Chapter IV of the Draft Program EIR. The analysis reveals that overall the proposed SCM will achieve significant VOC emission reductions.

If the commenter's "negative impacts on air quality" statement is in reference to reactivity, the commenter is referred to the More Reactivity section of Chapter IV in the Draft Program EIR, as well as responses to comments #1-1 and #1-4.



**COMMENT LETTER #2**  
**Sherwin Williams**  
**July 21, 1999**

- 2-1. Comment: The commenter states that the Program EIR should be delayed until the proposed SCM is finalized.

Response: The comment is noted. Based on comments received to date from industry and air districts, the ARB staff has modified the proposed SCM. The modifications in the proposed SCM reflect changes in the ARB staff's focus and timetable regarding the date of approval and the scope of the SCM. To this end, the revised proposed SCM does not include the final VOC content limits. Only the January 1, 2003, limits (interim limits) are included (except for IM coatings, which have a January 1, 2004, effective date).

The basic reason for addressing only the interim limits at this time is due to the need to focus limited staff resources on the technical, environmental, and economic issues associated with adoption of the interim limits.

- 2-2. Comment: Specific variations on the proposed VOC content limits and final compliance deadlines should be considered as one of the proposed alternatives in the Draft Program EIR.

Response: The comment is noted. The ARB staff has included alternatives that have varying VOC content limits and/or varying compliance deadlines. These alternatives are comprehensively analyzed pursuant to CEQA in Chapter V of the Draft Program EIR. The Final Program EIR for the proposed SCM will be provided to ARB's Board prior to the public meeting for its consideration of the proposed SCM. It is ultimately the Board's decision whether to adopt the proposed project or one of the feasible project alternatives. This decision will be based upon the information contained in the Final Program EIR, the staff report for the architectural coatings SCM (which will include the staff's economic impact analysis), and comments received from the public during the public meeting.

- 2-3. Comment: The commenter supports the low vapor pressure, VOC content limits/final compliance deadlines, and regional deregulation alternatives.

Response: The ARB staff reviewed these alternatives and concludes that the low vapor pressure and regional deregulation alternatives are infeasible. However, the VOC content limits/final compliance deadlines alternative is considered a feasible alternative. The commenter is referred to Chapter V of the Draft Program EIR, as well as responses to comments #1-9 and #2-2.

- 2-4. Comment: The commenter notes that it has reservations concerning the inclusion of a performance-based standard alternative, indicating that because of the different manufacturers' standards for different substrates this alternative would be unenforceable.

Response: The ARB staff agrees with the commenter's observations and has concluded that this alternative is infeasible. The commenter is referred to Chapter V of the Draft Program EIR as well as the response to comment #1-9.

- 2-5. Comment: The commenter notes that it has reservations concerning the inclusion of a reactivity-based regulatory alternative because accurate reactivity data on architectural coatings VOCs have not been developed. The commenter indicates that it would be impractical to suggest that a manufacturer create unique coatings formulations for different air districts with different reactivity configurations (VOC:NO<sub>x</sub> ratios).

Response: The ARB staff agrees that additional data are needed for a reactivity-based alternative. The commenter is referred to Chapter V of the Draft Program EIR, as well as the response to comment #1-9.

- 2-6. Comment: The commenter notes that it has reservations concerning the inclusion of a product line averaging alternative, indicating that because of the inconsistent reporting and recordkeeping requirements of air districts, the alternative is ultimately impractical.

Response: The ARB staff disagrees that the reporting and recordkeeping requirements that could be adopted by the air districts make this alternative infeasible. The ARB staff believes that the proposed SCM will provide consistency throughout the state for those air districts that undertake to adopt, or modify, an existing architectural coatings rule. The inclusion of an averaging provision would provide consistency throughout the state. Although an averaging provision is not necessary because many low-VOC compliant coatings are currently available to meet the proposed SCM VOC content limits, the ARB staff is considering including an averaging provision in the final SCM. The commenter is referred to Chapter V of the Draft Program EIR, as well as responses to comments #1-9 and #1-10.

- 2-7. Comment: The commenter notes that it has reservations concerning the inclusion of a seasonal regulation alternative, indicating that because of the stocking/unstocking/restocking costs to retailers, distributors, and manufacturers, this alternative is ultimately impractical.

Response: The ARB staff agrees with the commenter's observations and has concluded that the seasonal regulation alternative is infeasible. The commenter is referred to Chapter V of the Draft Program EIR, as well as the response to comment #1-9.

- 2-8. Comment: If a performance-based standard, reactivity-based approach, product line averaging, and seasonal regulation alternative are included in the SCM, the Program EIR will need to consider the effects of each.

Response: Since the ARB staff has found the performance-based standard, reactivity-based approach, and seasonal regulation alternatives to be infeasible, under CEQA it is not necessary to consider the environmental impacts of these alternatives. The commenter is referred to responses to comments #2-4 through #2-7.

The product line averaging alternative may be included as part of the final SCM. The environmental impacts associated with this provision have been analyzed pursuant to CEQA in Chapter V of the Draft Program EIR.

- 2-9. Comment: The stain category should be broken down into three subcategories: interior semi-transparent, exterior semi-transparent, and interior and exterior opaque.. These subcategories should be included in the Program EIR since it is likely that some or all of them could be included in the final SCM to allow the maximum VOC reduction with the minimum environmental harm and expense.

Response: Compliant interior and exterior coatings are currently available for semi-transparent stains. Opaque (semi-solid) stains are typically manufactured for exterior use only. However, compliant stains are available for both types of stains. Different interior and exterior VOC limits for the same category substantially impact the enforceability of a rule, especially in cases where the same formulation is recommended for dual uses. For example, 18 percent of the semi-transparent stains are recommended for both interior and exterior, or dual, usage. The commenter is referred to the summary table (Table IV-2) of Chapter IV and Appendix E of the Draft Program EIR.

- 2-10. Comment: The industrial maintenance (IM) category should be broken down into subcategories. These subcategories should be included in the Program EIR since it is likely that some or all of them could be included in the final SCM to allow the maximum VOC reduction with the minimum environmental harm and expense.

Response: Various commenters have suggested a number of subcategories for IM coatings. The proposed SCM does contain some subcategories from the IM category such as high temperature coatings, antifouling coatings, temperature-indicator safety coatings, antenna coatings, rust preventative coatings, and others, all with a higher VOC limit proposed than for IM coatings.

The ARB staff has found compliant coatings for each of the IM coating categories suggested by the commenter, and has analyzed the lower-VOC technologies for a variety of uses. The low- and zero-VOC IM coatings are recommended for a variety of industrial uses, including but not limited to refineries; bridges; pipelines; and chemical, food processing, pulp and paper manufacturing, and wastewater treatment facilities. The ARB staff has also considered data submitted by other commenters. The commenter is referred to the summary table (Table IV-2) of Chapter IV and Appendix E of the Draft Program EIR.

However, the ARB staff is proposing to delay the effective date of the 250 g/l VOC limit for IM coatings until January 1, 2004. This additional time will allow industry and other organizations to conduct their own technology assessments of zero- and low-VOC coatings for various types of uses.

- 2-11. Comment: The primer, sealer, and undercoater (PSU) category should be broken down into subcategories. These subcategories should be included in the Program EIR since it is

likely that some or all of them could be included in the final SCM to allow the maximum VOC reduction with the minimum environmental harm and expense.

Response: As indicated by product labels and product data sheets, many of the products in the primer, sealer, undercoater category are intended for use on interior and exterior surfaces. The 1998 ARB survey indicates that 41 percent of the products reported in this category are for interior use, 31 percent are for exterior use, and 28 percent can be used on either interior or exterior surfaces. For the sealer category, which was surveyed separately, the survey indicates that 61 percent of the products are for interior use, 26 percent are for exterior use, and 14 percent can be used on either interior or exterior surfaces. Further, the trend for multi-use products has resulted in products for which there is no clear-cut distinction between products that seal and products that prime or undercoat. Subcategorization of the primer, sealer, undercoater category into exterior and interior and sealer vs. primer or undercoater would create artificial categories for which very few products exist. The commenter is referred to the summary table (Table IV-2) of Chapter IV and Appendix E of the Draft Program EIR.

We are, however, recommending one subcategorization of PSU, “Specialty Primers” with a VOC limit of 350 g/l. This category covers specific coatings labeled and formulated for sealing fire, smoke or water damage; blocking stains, odors, or efflorescence; or for conditioning excessively chalky substrates. The SCM contains specific labeling requirements for this category and also requires manufacturers to report annually to ARB on the number of gallons of specialty primers sold in the state.

- 2-12. Comment: The nonflat category should be broken down into subcategories. These subcategories should be included in the Program EIR since it is likely that some or all of them could be included in the final SCM to allow the maximum VOC reduction with the minimum environmental harm and expense.

Response: Information on market shares from the ARB survey indicates that a considerable portion of existing interior and exterior low and medium gloss coatings already comply with the proposed limit. Our survey of product information sheets for complying low and medium gloss coatings shows that a variety of performance characteristics comparable to those of higher VOC products have been achieved for both interior and exterior coatings.

Available evidence does not support creation of a separate subcategory for high gloss coatings. While the market share for high gloss coatings that comply with the proposed limit is lower than the corresponding market shares for low and medium gloss coatings, technology for formulating complying high gloss coatings is available from some resin manufacturers and is being developed by other manufacturers. We believe that the proposed effective date of January 1, 2003, will allow sufficient time for the formulation of complying high gloss products that are comparable to higher VOC products over a broad range of performance characteristics. The commenter is referred to the summary table (Table IV-2) of Chapter IV and Appendix E of the Draft Program EIR.

- 2-13. Comment: The flats category should be broken down into subcategories. These subcategories should be included in the Program EIR since it is likely that some or all of them could be included in the final SCM to allow the maximum VOC reduction with the minimum environmental harm and expense.

Response: We do not believe that further subcategorization of flats is necessary. Our technical evaluation found a wide variety of product types in the flat coatings category that already comply with the proposed limit of 100 g/l. The ARB staff has found compliant flats for a variety of uses, including interior and exterior uses. A variety of performance characteristics are available for both interior and exterior products at VOC levels at or below 100 g/l. The commenter is referred to the summary table (Table IV-2) of Chapter IV and Appendix E of the Draft Program EIR.

- 2-14. Comment: Because the proposed SCM limits involve the extensive use of waterborne technologies, the Draft Program EIR should analyze the potential depletion of groundwater supplies and lowering of the water table from both their manufacture and from the need for more surface preparation (power washing).

Response: The Draft Program EIR comprehensively analyzes the potential water demand impacts associated with implementation of the proposed SCM. The analysis reveals that water demand impacts are negligible and insignificant. The commenter is referred to the Water section of Chapter IV in the Draft Program EIR.

ARB staff evaluated hundreds of conventional and low-VOC coatings product data sheets (see tables in Appendix E and the summary table in Chapter IV of the Draft Program EIR). The product data sheets indicated that low-VOC coatings do not require substantially different surface preparation, including power washing, than conventional coatings. As a result, it is not anticipated that power washing as a method of surface preparation will increase substantially as a result of implementing the proposed SCM.

- 2-15. Comment: Because the proposed SCM limits involve the extensive use of waterborne technologies, the Draft Program EIR should analyze the environmental effects of increased wastewater generation and the need for new or expanded wastewater treatment facilities.

Response: The Draft Program EIR comprehensively analyzes the potential water quality impacts associated with implementation of the proposed SCM. The analysis reveals that wastewater impacts associated with the cleanup of waterborne coatings are negligible and insignificant. The commenter is referred to the Water Impacts section of Chapter IV in the Draft Program EIR.

- 2-16. Comment: The seasonal regulation alternative could lead to increased traffic as a result of additional vehicles and trips needed to transport coatings stock between retailer, distributor, and manufacturer.

Response: The ARB staff has found that the seasonal regulation alternative is infeasible. Therefore, no further environmental impact analysis is required for this alternative under CEQA. The commenter is referred to Chapter V of the Draft Program EIR.

- 2-17. Comment: The seasonal regulation alternative could lead to increased usage of energy and mineral resources (gasoline) as a result of additional vehicles and trips needed to transport coatings stock between retailer, distributor, and manufacturer.

Response: The ARB staff has found that the seasonal regulation alternative is infeasible. Therefore, no further environmental impact analysis is required for this alternative under CEQA. The commenter is referred to Chapter V of the Draft Program EIR, as well as the response to comment #1-9.

- 2-18. Comment: If a category labeling requirement is adopted, potential energy/mineral resources impacts could occur due to coatings formulators having to make new labels for 26 air districts, especially to reflect rule amendments which may occur multiple times each year.

Response: In the version of the SCM presented in the NOP/IS, subsection 4.1.4 required that each coating container list the applicable coating category in Table of Standards in the rule. That provision has now been removed, and no further analysis is required under CEQA.

- 2-19. Comment: The handling of hazardous materials within ¼ mile of a school should be analyzed in the Draft Program EIR. The possible use of coatings containing acetone (which is highly flammable), glycol ethers, and/or diisocyanates used in the neighborhood of a school, as well as on school structures themselves, should not be ignored.

Response: The Draft Program EIR extensively analyzes the hazards and human health impacts associated with the use of traditional and replacement solvents, including acetone, glycol ethers, and diisocyanates, for the proposed SCM. In the context of acetone, the Draft Program EIR analyzes the flammability of this potential replacement. The commenter is referred to the Public Services and Hazards sections of Chapter IV in the Draft Program EIR.

- 2-20. Comment: Because the proposed VOC limits in the SCM will essentially eliminate the use of mineral spirits and will dramatically increase the market share of waterborne coatings, it is reasonable to assume that there will be an increase in the use of ethylene glycol ethers and ethylene glycol ether acetates. The commenter notes that the Draft Program EIR must analyze the health effects of this switch in solvents.

Response: The Draft Program EIR extensively analyzes the issue raised by the commenter. In its review of traditional and low-VOC coatings (see the tables in Appendix E of the Draft Program EIR), the ARB staff noted that manufacturers are moving away from formulating low-VOC coatings with hazardous materials when possible, for example, using Texanol®, propylene glycol, and ethylene glycol in lieu of



more hazardous glycol ethers such as EGBE, EGME, and EGEE. The commenter is referred to the Human Health Impacts section in Chapter IV of the Draft Program EIR for a more complete discussion of hazards impacts associated with both conventional and replacement solvents.

- 2-21. Comment: Because the proposed SCM will require the use of waterborne technologies, more surface preparation in the form of sandblasting will be required. This in turn will increase the public's exposure to crystalline silica, a Proposition 65 carcinogen. Sandblasting can also occur at a school as well as within ¼ mile of a school. Because architectural coatings used in residential settings will require more abrasive blasting than is currently the case, and such settings may expose children to these hazards, these impacts need to be considered. The lack of solvent borne primers is especially critical, because currently they can serve as a preparatory step prior to the application of a waterborne topcoat.

Response: The Draft Program EIR analyzes the potential for increased sandblasting and exposure to crystalline silica. ARB staff concludes that low-VOC coatings do not require substantially different surface preparation than conventional coatings. Thus, implementing the SCM is not anticipated to result in increased sandblasting activity. Furthermore, existing State law applicable to abrasive blasting minimizes public exposure to fine inhalable particles, including crystalline silica. The commenter is referred to the Air Quality and Human Health sections in Chapter IV of the Draft Program EIR.

With regard to the need for solvent-borne primers, the proposed SCM includes two primer categories that may contain solvent-borne primers—specialty primers with a VOC limit of 350 g/l, and quick-dry primers, sealers, and undercoaters with a VOC content of 200 g/l.

- 2-22. Comment: Since the proposed SCM will require the use of waterborne technologies, more surface preparation in the form of power washing and abrasive blasting will be required, which in turn will generate noise. Because architectural coatings used in residential settings will require more surface preparation than is currently the case, children may also be exposed to excessive noise. The lack of solvent-borne primers is especially critical, because currently they can serve as a preparatory step prior to the application of a waterborne topcoat. It is expected that a substantial temporary, periodic, or permanent increase in ambient noise levels will occur and should be evaluated in the Draft Program EIR.

Response: ARB staff concludes that low-VOC coatings do not require substantially different surface preparation than conventional coatings. Therefore, implementation of the proposed SCM is not anticipated to result in a substantial increase in power washing or sandblasting as a method of surface preparation. For these reasons, implementation of the proposed SCM is not anticipated to result in significant noise impacts. The commenter is referred to the Air Quality and Impacts Found Not to be Significant sections in Chapter IV of the Draft Program EIR.

- 2-23. Comment: Because the proposed SCM will force the use of waterborne technologies, there will be public services impacts. In particular, the commenter asserts that waterborne coatings must be applied in warmer and drier months and applied more often, thus reducing the availability of public facilities, especially parks.

Response: The ARB staff disagrees with the commenter's assertion regarding waterborne coatings. Based upon NTS data and the dry time and qualitative durability descriptions in the coatings product data sheets, staff concluded that low-VOC coatings have dry time and durability characteristics comparable to conventional coatings, and that therefore the SCM will not adversely impact the maintenance of public facilities. Thus, the ARB staff anticipates that implementation of the proposed SCM will not result in significant public services impacts. The commenter is referred to the Public Services section and Table IV-2 in Chapter IV of the Draft Program EIR, and to the tables in Appendix E,

- 2-24. Comment: Because the proposed SCM will require the use of waterborne technologies, more surface preparation in the form of sandblasting will be required. This in turn will increase the amount of wastes deposited in landfills. The commenter also asserts that the proposed VOC content limits for IM coatings will eliminate the use of single component systems, which will lead to the use of two-component systems. These systems, according to the commenter, have limited pot lives; once the pot life is exceeded, the material is waste. Thus, the increased use of multi-component systems can result in increased generation of solid and hazardous wastes.

Response: Wastes generated from sandblasting are not anticipated to increase substantially for the same reason identified in the response to comment #2-21. Consequently, implementing the proposed SCM is not expected to result in significant solid waste impacts from sandblasting. Regarding pot life, the ARB staff's review of currently available, multi-component low-VOC coatings revealed that pot-life problems are not anticipated. These issues are discussed in Chapter IV of the Draft Program EIR. However, based on the commenter's and others' comments, the Draft Program EIR includes an analysis of potential solid waste impacts related to pot-life problems in multi-component low-VOC compliant coatings. This analysis also evaluates shelf-life and freeze-thaw problems associated with low-VOC compliant coatings. The commenter is referred to the Solid Waste/Hazardous Waste section of Chapter IV in the Draft Program EIR.

- 2-25. Comment: Due to the unavailability of traditional coatings technologies, maintenance of historical buildings will be more difficult, at a minimum, and in the worst case, the historical and physical integrity of these structures may be jeopardized. This is especially problematic with the elimination of solvent borne primers, as well as for the second tier reductions of flat and nonflat coatings to 50 g/l. As a result, implementation of the proposed SCM could result in aesthetics and cultural resources impacts.



Response: The ARB staff does not agree that significant aesthetics and cultural resources impacts will occur as a result of more difficulty in maintaining historic buildings. Based upon the staff's comprehensive investigation of commercially available low-VOC compliant products, performance characteristics of existing and reformulated products should be sufficient to meet the maintenance needs of historical structures. Thus, the ARB staff anticipates that the proposed SCM will not result in significant aesthetics and/or cultural resources impacts. The commenter is referred to the Impacts Found Not To Be Significant section and the summary table (Table IV-2) in Chapter IV of the Draft Program EIR, as well as the tables in Appendix E.

The ARB staff also notes that the original proposal has been modified to exclude the final VOC content limits of 50 g/l for the flat and nonflat coatings categories. The commenter is referred to the response to comment #2-1.

**COMMENT LETTER #3**  
**National Paint & Coatings Association (NPCA)**  
**July 22, 1999**

The commenter has attached and incorporated by reference two other comment letters. The first letter labeled as Appendix A was the commenter's NOP/IS comment letter submitted during the SCAQMD's 1999 amendments to its Rule 1113 – Architectural Coatings. For the relevant parts of the comment letter that are applicable to the ARB's proposed SCM, the ARB staff has provided a detailed response. For example, where the comment refers to the District or SCAQMD, the ARB staff will assume these terms mean the ARB. Where the comment is specific to the SCAQMD's Rule and has no relevance to the ARB's proposed SCM, no response is provided. The commenter is referred to the responses to comments #3-13 through #3-30.

The second letter, labeled as Appendix B, was submitted to the ARB prior to the NOP/IS comment period. The commenter is referred to the responses to comments #3-31 through #3-35.

- 3-1. Comment: There is no need for the SCM to specify compliance dates since the SCM is only a model rule and notes that a more reasonable approach would be to specify time frames when it is believed that the technology will be available to meet lower VOC limits.

Response: The ARB staff disagrees that there is no need to specify compliance dates. Compliance dates are needed to provide for uniform implementation of architectural coatings rules throughout the State. Consistent compliance dates will also allow for a statewide averaging provision if one is included in the final SCM.

- 3-2. Comment: Industry will not be able to develop effective coatings at the proposed VOC content limits; more time is needed for technology development.

Response: The ARB staff disagrees that more time is needed for technology development. Based on the ARB staff's comprehensive and extensive investigation of low-VOC compliant products, ARB staff believes that the 2003 VOC content limits, 2004 for IM coatings, are technologically feasible (see tables in Appendix E and the summary table in Chapter IV of the Draft Program EIR). However, the Draft Program EIR contains project alternatives that have varying VOC content limits and compliance dates (e.g., 2004). The commenter is referred to Chapter V of the Draft Program EIR.

- 3-3. Comment: The Program EIR should evaluate the implementation of the first VOC content limits in the year 2004; the final limits should be considered based on an increments of progress approach.

Response: With regard to the comment that the first VOC limit should be implemented in the year 2004, the commenter is referred to the response to comment #3-2.

Regarding the final VOC content limits, the ARB staff has revised the SCM since the release of the NOP/IS to include only the interim limits, which will take effect in 2003 (2004 for IM coatings). The commenter is referred to the response to comment #2-1.

- 3-4. Comment: The Program EIR should evaluate the suggestions made concerning the SCM in the commenter's June 7, 1999, letter, which the commenter incorporates by reference.

Response: The ARB staff has specifically addressed the commenter's suggestions in the responses to comments #3-31 through #3-35.

- 3-5. Comment: Implementation of the SCM may result in a lack of effective coatings for many current applications; the Program EIR should evaluate this impact on the projected VOC emission reductions.

Response: The ARB staff has analyzed the impact of allegedly ineffective low-VOC coatings. There is currently a wide range of commercially available coatings that meet the proposed VOC content limits in the SCM (see tables in Appendix E and the summary table in Chapter IV of the Draft Program EIR). Additionally, the results of the SCAQMD's NTS study support these findings. The laboratory results of the SCAQMD's NTS study reveal that there are currently available coatings that comply with the proposed VOC content limits and which have coating and durability characteristics comparable to existing high-VOC coatings. Thus, the proposed SCM should achieve significant VOC emission reductions throughout the state.

- 3-6. Comment: The commenter concurs with the consideration of alternatives listed in the NOP/IS, including the different VOC content limits and compliance deadlines alternative.

Response: The ARB staff has analyzed all the alternatives listed in the NOP/IS and has concluded that the only feasible alternative is the varying VOC content limits/compliance deadlines alternative. The commenter is referred to Chapter V of the Draft Program EIR as well as the response to comment #2-2.

- 3-7. Comment: The commenter agrees that the SCM could have a significant effect on the environment and with the need to prepare a Program EIR.

Response: The ARB staff has prepared a comprehensive and detailed Draft Program EIR that evaluates the potential environmental impacts associated with implementation of the proposed SCM. The Draft Program EIR concludes that the proposed SCM will not result in any significant impacts.

- 3-8. Comment: The commenter asserts that significant costs are associated with the implementation of the SCM, and agrees that costs should be evaluated in an economic impact analysis contained in the Staff Report rather than in the Program EIR.

Response: The ARB staff will conduct an extensive economic impact analysis and will include it in the Staff Report for the architectural coatings SCM. The economic impact

analysis will consider reformulation costs as well as the impacts on the profitability (return on the owners equity) of the architectural coatings industry. As part of this effort, ARB staff is conducting a survey on cost impacts.

- 3-9. Comment: The Program EIR must analyze water quality impacts if lower VOC coatings are required for the water and sewage system infrastructures. Water quality impacts could also result from the release of hazardous materials due to the failure of tank lining and piping coatings.

Response: Based upon the ARB staff's comprehensive and extensive review of the product information sheets obtained from resin manufacturers and coatings formulators, there is currently a wide range of IM coatings, including tank lining coatings, that are commercially available to meet the proposed SCM VOC content limits (see tables in Appendix E and the summary table in Chapter IV of the Draft Program EIR). Additionally, the results of the SCAQMD's NTS study support these findings. The laboratory results of the SCAQMD's NTS study reveal that there are currently available IM coatings that comply with the proposed VOC content limits and which have coating and durability characteristics comparable to existing high-VOC coatings. Thus, water quality impacts from the alleged failure of tank lining coatings is not expected to occur. The commenter is referred to responses to comments #3-34 and #3-35.

- 3-10. Comment: The Program EIR must analyze aesthetic impacts from the elimination of the anti-graffiti coatings category.

Response: The ARB staff has found both permanent and sacrificial anti-graffiti systems that comply with the proposed SCM VOC content limits. Based on the availability of these coatings and others, the ARB staff anticipates that the anti-graffiti coatings category will not be eliminated and that implementation of the SCM will not result in significant aesthetic impacts.

- 3-11. Comment: The Program EIR must analyze impacts associated with the potential failure of IM coatings to meet infrastructure needs at recreational facilities.

Response: The ARB staff's independent investigation reveals that there are commercially available low-VOC compliant IM coatings with comparable performance characteristics as traditional coatings. Based on this analysis, the ARB staff has determined that implementation of the proposed SCM will not create significant recreational impacts. The commenter is referred to Appendix E and the summary tables in Chapter IV of the Draft Program EIR. The commenter is also referred to the "Environmental Impacts Found Not to Be Significant" section in Chapter IV of the Draft Program EIR.

- 3-12. Comment: The Program EIR must analyze solid waste/hazardous waste impacts associated with increased disposal of two-pack (two-component) coatings systems.

Response: Chapter IV of the Draft Program EIR includes an analysis of potential impacts to landfills from the use of two-component coatings systems. The analysis concludes that, even taking into consideration as a “worst-case” the disposal of some coatings due to pot life problems, implementation of the proposed SCM will not result in significant solid waste/hazardous waste impacts. The commenter is referred to the Solid Waste/Hazardous Waste section of Chapter IV in the Draft Program EIR.

- 3-13. Comment: The SCM is moving forward before all the necessary data (*e.g.*, NTS study) are available to make an informed decision.

Response: Although it is true that the field portion of the NTS study is ongoing, the proposed SCM is not dependent on this study. The ARB staff conducted a comprehensive survey of currently available coatings that forms the primary basis for the proposed SCM. ARB staff also conducted literature reviews and held discussions with manufacturers and resin suppliers. In addition, ARB staff evaluated hundreds of coatings product data sheets from many resin manufacturers and coating formulators and considered the following coatings characteristics: VOC content, percent solids by volume, coverage, adhesion, durability, pot life, shelf life, gloss, and drying time. Based on this analysis, the ARB staff has determined that low-VOC compliant coatings are technically feasible and commercially available with performance characteristics comparable to traditional coatings.

- 3-14. Comment: The SCM should be postponed until the NTS study and ARB’s 1998 Architectural Coatings Survey are completed.

Response: At the time of this commenter’s letter, the ARB’s 1998 survey was not yet published in final form and the SCM was scheduled for Board consideration in November 1999. However, at this time, both the laboratory phase of the NTS study as well as the ARB’s 1998 Survey are completed. The ARB’s consideration of the proposed SCM has been rescheduled from November 1999 to May 2000.

- 3-15. Comment: The NTS study should be expanded to include real world weathering and durability studies.

Response: The NTS study does include real-time exposure tests that will be conducted in three locations within the South Coast Air Basin, including El Segundo, Saugus, and Fullerton. This testing is ongoing.

- 3-16. Comment: There must be a thorough evaluation of low-VOC technology before it can be mandated as feasible for all applications.

Response: The proposed SCM does rely on a thorough evaluation of low-VOC coatings technology. Based on the ARB staff’s review of resin manufacturers’ and coating formulators’ product information sheets, which includes weatherability data, low-VOC coatings with performance characteristics comparable to traditional coatings are available to meet the proposed SCM VOC limits (see tables in Appendix E and the summary table

in Chapter IV of the Draft Program EIR). This is further supported by the results of the ARB's 1998 Architectural Coatings Survey. Also see the response to comment #3-13.

The ARB staff has held seven public workshops (May 27 and August 20, 1998; March 30, June 3, July 1, September 8, and December 14, 1999) where industry, the public, air districts, and the U.S. EPA have had an opportunity to express their concerns with the proposed SCM. Furthermore, ARB staff has met individually with specific industry members, as well as air districts, to further understand their particular concerns. As a result of input received from the public workshops and individual meetings, staff has made revisions to the proposed SCM. Accordingly, the SCM development process can be characterized as, "...a thorough, open minded, and objective evaluation of existing and reasonably foreseeable coatings technologies in setting future VOC limits."

- 3-17. Comment: The National AIM Rule should be adopted as a template for the SCM, recognizing that where lower limits are proposed, further breakout categories may be required.

Response: The ARB staff has extensively analyzed the National AIM Rule's categories and definitions, as well as the VOC limits. As a result of this analysis, the ARB staff is recommending the addition of three of the National Rule categories that are not found in any districts' rules: antenna coatings, flow coatings, and anti-fouling coatings. The VOC limit for antenna coatings is the same as that in the National Rule, while the limits for flow coatings and anti-fouling coatings are slightly lower than those in the National Rule, based on VOC contents of existing products being sold in California. ARB staff believes that adding additional categories into the rule is not necessary at this time for the reasons discussed in Appendix D of the Draft Program EIR. Also, for most of the unique National Rule categories, no specific comments requesting their inclusion were received. Appendix D identifies the category and the VOC limit that these unique National Rule categories fit into.

The National Rule contains separate categories for interior and exterior flats and nonflats, with the same VOC limit. This does not add any simplicity to the rule, just redundancy, and only one limit is being proposed for each of these coatings categories in the SCM. The ARB staff has created two new coating categories that were found in the National Rule, floor coatings and rust preventative coatings. While the proposed VOC limit for rust preventative coatings is that same as the limit in the National Rule, the proposed VOC limit for floor coatings is lower than that of the National Rule, based on the VOC contents of coatings sold in California.

Two further breakout categories resulted from the public process that were in neither the National Rule nor Rule 1113. We broke out temperature-indicator safety coatings from high temperature coatings, and clear brushing lacquers from lacquers. Both of these are small categories that required a higher VOC limit because reformulation is impractical (because of small volume or for technical reasons) at this time.

3-18. Comment: The NOP/IS lists seven alternatives that will be analyzed in the Program EIR.

Response: The ARB staff has analyzed all of the alternatives listed in the NOP/IS and has concluded that the only feasible alternative is the varying VOC content limits/compliance deadlines alternative. The commenter is referred to Chapter V of the Draft Program EIR as well as the response to comment #2-2.

3-19. Comment: A low vapor pressure alternative may have only limited impact on the ability of manufacturers to meet the VOC limits in the proposed SCM.

Response: The ARB staff has evaluated the low vapor pressure alternative and has found this alternative infeasible. The commenter is referred to Chapter V of the Draft Program EIR as well as the response to comment #2-2.

3-20. Comment: A performance-based alternative is fraught with numerous problems and controversies, with the exception of IM coatings, which are certified to meet a specific set of performance standards.

Response: The ARB staff has found the performance-based alternative infeasible. The IM category is a broad category with differing performance criteria depending on the type of application. The commenter is referred to Chapter V of the Draft Program EIR as well as the response to comment #2-2.

3-21. Comment: A reactivity-based alternative may provide additional flexibility to coatings manufacturers, depending on how it is employed. The commenter supports continued evaluation and research of this alternative.

Response: The comment is noted. The ARB is committed to evaluating the feasibility of reactivity-based regulations for certain source categories, including architectural coatings, to determine if, in the future, reactivity-based limits can be developed. The commenter is referred to Chapter V of the Draft Program EIR as well as responses to comments #1-1 and #2-2.

3-22. Comment: A product line averaging alternative may offer added flexibility for the manufacturer in meeting the proposed VOC limits.

Response: The ARB staff concurs and for this reason is considering including a product line averaging option in the final SCM. The commenter is referred to Chapter V of the Draft Program EIR, as well as responses to comments #1-9, #1-10, and #2-2.

3-23. Comment: A regional deregulation alternative is the most difficult to evaluate, as it depends on an anticipated fundamental change in the VOC/NO<sub>x</sub> ratios throughout the State.



Response: The ARB staff has evaluated a regional regulation alternative and found this alternative infeasible. The commenter is referred to Chapter V of the Draft Program EIR as well as responses to comments #1-9 and #2-2.

- 3-24. Comment: A seasonal alternative appears attractive, but the commenter is concerned with how such an approach would be implemented.

Response: The ARB staff has evaluated a seasonal regulation alternative and found this alternative infeasible. The commenter is referred to Chapter V of the Draft Program EIR, as well as responses to comments #1-9 and #2-2.

- 3-25. Comment: The current proposed limits are not technically and economically feasible. The ARB should postpone adoption of the SCM until the completion of the NTS study and ARB's 1998 Architectural Coatings Survey.

Response: Regarding the comments that there is no reasonably foreseeable technology that would achieve the proposed limits and that the limits might be appropriate for some applications and not others within a category, the commenter is referred to responses to comments #3-13 through #3-16. With regard to costs, this issue will be addressed in the economic impact assessment of the final Staff Report for the proposed SCM. Finally, concerning postponement of the proposed SCM, the public meeting for the ARB's consideration of the proposed SCM has been delayed from November 1999 to May 2000. This delay has provided additional time for ARB staff to meet with industry and consider their concerns with the proposed VOC limits.

- 3-26. Comment: The ARB should work with coatings manufacturers and users to identify those applications that cannot be technically or economically reformulated or replaced by a lower VOC product at the proposed limits. Expansion of the number of coatings categories in the SCM, as accomplished in the national AIM rule, would ensure that lower limits would not apply to those categories for which they are not feasible.

Response: The ARB staff has conducted extensive technology evaluations in more than 60 categories, and found compliant coatings that can meet the proposed VOC content limits for the coatings categories in the proposed SCM. Further, to date the staff has conducted four workshops, considered about 60 comment letters, and held about 25 meetings with individual stakeholders. We believe the proposed SCM reflects the results of these outreach efforts. Thus, the ARB staff believes that the further expansion of categories is unnecessary. The commenter is referred to Appendix E and the summary table in Chapter IV of the Draft Program EIR, the Staff Report, and the response to comment #3-17.

- 3-27. Comment: The air districts need to evaluate the use of alternative methods to determine the VOC content of low-VOC coatings and notes that Method 24 can give false readings for very-low-VOC (<75 g/l) coatings.



Response: Method 24 was extensively peer-reviewed by industry and government agencies, and is the test method is used to enforce local district rules in California, as well as the National Architectural Coatings Rule. The commenter is referred to the response to comment #1-4.

- 3-28. Comment: The Program EIR should explore an option to allow for the purchase of noncompliant coatings. Conceptually, a noncompliant coatings fee is essentially a “pay-to-pollute” proposal.

Response: The ARB has evaluated an exceedance fee option as a project alternative and has found this alternative to be infeasible. The commenter is referred to Chapter V of the Draft Program EIR.

- 3-29. Comment: The Program EIR should consider the human health impacts associated with the use of higher molecular weight polymers in low-VOC compliant coatings. For the proposed 50 g/l VOC limit in nonflats, more specialized coatings (*e.g.*, two-pack systems) will be used.

Response: Chapter IV of the Draft Program EIR evaluates the human health impacts associated with high molecular weight polymers. This analysis compares the carcinogenic, chronic, and acute human health impacts from the use of replacement solvents in low-VOC compliant coatings. The analysis found that for two-component IM coatings systems containing diisocyanates, significant human health impacts are not expected. The commenter is also referred to the response to comment #2-19.

In the context of the 50 g/l VOC limit for nonflats, the ARB staff has revised the SCM since the release of the NOP/IS to include only the interim limits, which will take effect in 2003 (2004 for IM coatings). The final limits have been dropped at this time due to an effort to focus staff resources on the technical, environmental, and economic issues associated with the interim limits. The commenter is referred to the response to comment #2-1.

- 3-30. Comment: The Program EIR must analyze solid waste/hazardous waste impacts associated with increased disposal of uncured two-component coatings systems.

Response: Chapter IV of the Draft Program EIR includes an analysis of potential impacts to landfills from the use of two-component coatings systems. The analysis concludes that, even taking into consideration as a “worst-case” the disposal of some coatings due to pot-life problems, implementation of the proposed SCM will not result in significant solid waste/hazardous waste impacts. The commenter is referred to the Solid Waste/Hazardous Waste Impacts section of Chapter IV in the Draft Program EIR.

- 3-31. Comment: The interim limits should not become effective until July 1, 2004, and the final limits, if shown to be technically feasible, should not become effective until July 1, 2008.

Response: Concerning the effective date of the interim VOC limits, the commenter is referred to responses to comments #3-2 and #3-3. Regarding the final VOC content limits, the ARB staff has revised the SCM since the release of the NOP/IS to include only the interim limits, which will currently take effect in 2003 (2004 for IM coatings). The final limits have been dropped at this time due to an effort to focus staff resources on the technical, environmental, and economic issues associated with the interim limits.

- 3-32. Comment: The interim limits should be the focal point of discussion and any final limits should be replaced by an increments of progress approach.

Response: Since the release of the NOP/IS, the ARB staff has revised the SCM to include only the interim limits. The commenter is referred to responses to comments #3-2, #3-3, and #3-31.

- 3-33. Comment: The ARB should adopt the National AIM Rule as the template for the SCM. In the commenter's opinion, this approach would provide uniformity between the National Rule and the rules promulgated by individual air districts in California.

Response: The commenter is referred to the response to comment #3-17.

- 3-34. Comment: The SCM should consider further subdividing the following coating categories: IM, flats, nonflats, PSUs, stains, and waterproofing sealers.

Response: The ARB staff has created new categories as a result of our technology assessment. These categories include bituminous roof coatings, recycled coatings, antenna coatings, anti-fouling coatings, flow coatings, rust preventative coatings, specialty primers, clear brushing lacquers, temperature-indicator safety coatings, and floor coatings. However, the ARB staff does not concur with the commenter's recommendation to add subcategories for high gloss non-flat coatings, high gloss IM coatings, tank lining and pipe coatings, and semi-transparent stains. The ARB staff's research has found many low-VOC compliant coatings for each of the additional subcategories proposed by the commenter. The commenter is referred to Appendix D of the Draft Program EIR for a discussion of each coating category included in the SCM.

- 3-35. Comment: Changes to the following rule definitions are warranted: tank lining and pipe coatings, interior semi-transparent stains, and specialty primers.

Response: The commenter's proposed changes including definitions mentioned in comment #3-34 are discussed separately below.

#### *Semi-Transparent Stains*

The ARB staff has found interior and exterior semi-transparent stains that comply with the proposed 250 g/l limit. A detailed discussion of these coatings can be found in Appendix E of the Draft Program EIR. Appendix D of the Draft Program EIR contains a list of compliant semi-transparent stains.

*High-Gloss Nonflats*

The ARB staff has found high gloss coatings for both interior and exterior uses which meet the VOC limits proposed in the SCM. A detailed discussion of these coatings can be found in Appendix D of the Draft Program EIR. Appendix E of the Draft Program EIR contains a list of compliant products. The commenter is referred to the response to comment #2-12.

*Tank Lining and Pipe Coatings*

The ARB staff has found tank lining and pipe coatings that comply with the proposed IM VOC content limits. However, we are proposing to delay the effective date of the 250 g/l limit for IM coatings until January 1, 2004, to allow more time for essential public service agencies to complete administrative processes. This extension would avoid the need to provide essential public services a higher VOC limit until they receive approval to use complying coatings.

**COMMENT LETTER #4**  
**Painting and Decorating Contractors of America (PDCA)**  
**June 29, 1999**

- 4-1. Comment: The commenter is strongly opposed to the proposed SCM. ARB should establish a joint agency/industry working group, move the adoption date to June of 2000, assume a leadership role, and reestablish trust with industry.

Response: The ARB staff has been working closely with the SCAQMD's Architectural Coatings Working Group since 1998. We have also formed an industry/ARB/air district committee to work with us on developing an averaging provision. In addition, ARB staff has held four workshops with industry since June 1999 and, since then, has met with over 25 individual companies and associations, including the PDCA. We have postponed ARB's consideration of the SCM from November 1999 to May 2000.

- 4-2. Comment: The proposed SCM mirrors the SCAQMD's Rule 1113.

Response: The ARB staff is using the SCAQMD's Rule 1113 as a starting point, but our efforts have been concentrated on the interim limits contained in Rule 1113. We are conducting an independent analysis of the technical and commercial feasibility of the interim limits. We are not considering Rule 1113's final limits at this time.

- 4-3. Comment: ARB has an opportunity to establish a leadership role in the regulation of architectural coatings.

Response: We are taking a leadership role in developing the SCM with the districts. We will be doing so as we consider the development of a statewide averaging approach and in encouraging districts to adopt the SCM as approved by the Board.

**COMMENT LETTER #5**  
**Society of Specialty Protective Coatings (SSPC)**  
**July 23, 1999**

- 5-1. Comment: The technology for IM coatings to meet the <250 g/l interim limit is not proven for several types of exposures (*e.g.*, acids, bases, solvents, and oxidizers).

Response: The ARB staff has conducted a thorough technology assessment of coatings available today that would comply with the proposed 250 g/l limit. Based on our review, we have concluded that products that would comply with that limit are technologically and commercially available, and that such products perform as well as current high-VOC IM coatings. The complying products include coatings for immersion and non-immersion service involving exposure to various substances, including chemicals such as acids, bases, solvents, and oxidizers. Nevertheless, to allow time for essential public services agencies to complete administrative processes before low VOC coatings can be used, we have delayed the proposed effective date until January 1, 2004. This extension would avoid the need to provide essential public services a higher VOC limit until they receive approval to use complying coatings.

- 5-2. Comment: IM coating suppliers indicate that low-VOC polyurethanes are not available below 320 g/l.

Response: The ARB staff's technology assessment for IM coatings included an assessment of polyurethane coatings for severe exterior exposure. The assessment concluded that products that would comply with that limit are technologically and commercially available, and that such products perform as well as current high-VOC IM coatings. Polyurethane products that would comply with the proposed 250 g/l limit are generally water-based, rather than the current solvent-based polyurethanes with VOC content above 320 g/l. The commenter is also referred to the response to comment #5-1.

- 5-3. Comment: The 100 g/l final VOC content limit for IM coatings is unachievable based on today's coating technology.

Response: The ARB staff's investigation has found several low-VOC coating technologies that can meet the 100 g/l limit for IM coatings. However, the ARB staff has revised the SCM since the release of the NOP/IS to include only the interim limits (*e.g.*, 250 g/l for IM coatings), which will take effect in 2004. The final limits have been dropped at this time due to an effort to focus staff resources on the technical, environmental, and economic issues associated with the interim limits. The commenter is referred to the response to comment #2-1.

- 5-4. Comment: The metallic pigmented filled coatings definition should include zinc.

Response: We have revised the definition of metallic pigmented coatings accordingly.

**COMMENT LETTER #6a**  
**Law Offices of Smiland and Khachigian**  
**June 25, 1999**

- 6a-1. Comment: (1) the proposed SCM mirrors the SCAQMD's Rule 1113; (2) it is impossible to align the SCM with U.S. EPA's National AIM Rule; and (3) the ARB has not conducted a prior independent economic nor environmental review to support its conclusions.

Response: In many respects, the proposed SCM does mirror the SCAQMD's Rule 1113. The ARB staff's independent and comprehensive review of commercially available low-VOC compliant coatings technology reveals that SCAQMD's interim limits are technologically and economically feasible. The commenter is correct that the proposed SCM does not align exactly with U.S. EPA's National AIM Rule. However, the proposed SCM does incorporate many of its features. The commenter is referred to responses to comments #3-17 and #3-33.

Regarding the commenter's third assertion, it is not clear exactly what is implied by the statement "no prior independent economic nor environmental review to support those conclusions." If the commenter is alleging that the ARB staff is making final decisions about the proposed SCM without conducting economic or environmental analyses, the commenter is mistaken. One of the important aspects of this SCM effort is the consideration of the environmental and economic impacts of the proposed SCM. To that end, the Draft Program EIR comprehensively analyses the environmental impacts associated with implementation of the proposed SCM. The ARB staff will also conduct an in-depth analysis of the economic impacts of the SCM. This analysis should be completed at the same time as the final Program EIR and will be made available to the public at that time. The ARB's final decision on the proposed SCM will be based on comprehensive and in-depth environmental and economic analyses as well as comments submitted by industry and other interested parties.

If the commenter is implying that the ARB supported the SCAQMD's Rule 1113 without conducting these analyses, the ARB staff fails to see how that is relevant to this SCM. As part of this proposed SCM, ARB staff has conducted its own technical analysis of whether low-VOC compliant coatings are available to meet the proposed SCM VOC content limits. Based on its independent and comprehensive analysis, the ARB staff has found low-VOC compliant coatings that can meet the SCM limits. In addition, ARB staff has conducted an environmental analysis of using these low-VOC compliant coatings, and will soon complete its own economic analysis. Thus, the focus of this SCM process should be the merits of the ARB staff's findings from these analyses rather than the ARB's support of the SCAQMD's Rule 1113.

- 6a-2. Comment: As a result of U.S. EPA's promulgation of the National AIM Rule, the ARB is preempted from regulating architectural coatings.

Response: This comment does not raise any CEQA issues, and therefore no further response is required. Nevertheless, the ARB's Office of Legal Affairs has carefully reviewed this legal argument and concluded that it has no merit. The plain language of the Clean Air Act Amendments of 1990, as well as its legislative history, are quite clear that states are *not* preempted from establishing their own standards for consumer products and architectural coatings. This is true whether or not national rules are adopted by the U.S. EPA. The U.S. EPA agrees that states are not preempted by the Clean Air Act or by the U.S. EPA's adoption of a national rule, and has explicitly said so in the Federal Register notices for the national consumer products and architectural coatings rulemakings. Finally, in 1997 the commenter sued the ARB and the SCAQMD in federal District Court, and one of the causes of action in this lawsuit was the commenter's theory that states are preempted from regulating architectural coatings. In August 1997, District Court Judge Pregerson rejected this theory and ruled in favor of the ARB and the SCAQMD.

- 6a-3. Comment: If ARB continues to regulate architectural coatings, VOC content limits and compliance deadlines should be reasonable.

Response: See the response to comment #3-13.

- 6a-4. Comment: The ARB should avoid the catastrophic error made by the SCAQMD in banning virtually all paints. The ARB should exercise a leadership role to restore reason to the statewide clean air program.

Response: The ARB staff does not agree with the commenter's assertion that the SCAQMD's Rule 1113 bans virtually all paints. The ARB staff's independent analysis of commercially available low-VOC compliant coatings supports this conclusion. However, the SCAQMD's Rule 1113 is not at issue in the proposed SCM process. The focus should be on whether the ARB staff adequately evaluated the technical merits and environmental impacts of the proposed SCM.

- 6a-5. Comment: The ARB cannot proceed further without conducting the required environmental analysis under CEQA. The commenter also believes that the ARB's adoption of the SCM is a "regulation" under California law, and that that the ARB must follow the process specified in the California Administrative Procedure Act (APA), including the economic analysis requirements of the APA.

Response: The ARB staff agrees that the adoption of the SCM is a "project" subject to CEQA, which is why the ARB staff has prepared the draft Program EIR. The commenter is referred to this document for an analysis of the environmental impacts associated with the proposed SCM. It is not correct that the adoption of a nonbinding Suggested Control Measure is a regulation under the APA. On this legal theory the commenter has twice sued the ARB, with respect to the 1989 SCM adopted by the ARB. The Court of Appeal has twice rejected the commenter's arguments. Even though the APA does not apply and an economic analysis of the SCM is not legally required, the ARB staff believes that performing an economic analysis is good public policy. A thorough economic analysis of



the SCM will be completed and released for public comment prior to the ARB's consideration of the SCM.

- 6a-6. Comment: The primary precursor of ozone is NO<sub>x</sub>, emitted mainly by motor vehicles and industrial combustion sources, and references the National Research Council report, "Rethinking the Ozone Problem in Urban and Regional Air Pollution."

Response: The ARB staff does not concur with the commenter's statement. Scientific evidence supports the theory that VOCs play a significant role in the formation of ozone. In particular, ground level ozone formation is a result of complex chemical reactions involving both VOCs and NO<sub>x</sub>. VOCs react with hydroxyl radicals to form organic peroxy radicals which subsequently react with nitric oxide (NO) to form nitrogen dioxide (NO<sub>2</sub>). Nitrogen dioxide photo-disassociates to form NO and oxygen atoms. The oxygen atoms rapidly associate with molecular oxygen to form ozone. The amount of ozone formed is a function of the number of conversions of NO to NO<sub>2</sub> due to the organic "chain reactions." When VOC emissions are lowered, the number of NO-to-NO<sub>2</sub> conversions decrease. Discussions of the atmospheric chemistry of ozone formation can be found in the 1991 National Research Council report, "Rethinking the Ozone Problem in Urban and Regional Air Pollution." Specifically, page 116 states... "the presence of VOCs causes enhanced NO-to-NO<sub>2</sub> conversion and hence the production of concentrations of ozone that exceed those encountered in the clean background troposphere."

Furthermore, the relative effectiveness of VOC and NO<sub>x</sub> controls for reducing ozone in a particular area depends on the ambient VOC:NO<sub>x</sub> ratio in that area. Historic ozone trends for California indicate that there is a correlation between a mass VOC reduction and ozone reduction. Therefore, further significant VOC reductions are needed from both mobile and stationary sources in order for many air basins to comply with the national and California ambient air quality standards for ozone. The need to regulate VOCs with respect to reducing ozone formation is discussed extensively in the More Reactivity section of Chapter IV of the Draft Program EIR. The commenter is also referred to the response to comment #1-1.

- 6a-7. Comment: Organic compounds play a role in ozone nonattainment in some areas at some times. For an organic compound to be an ozone precursor, it must be sufficiently volatile and reactive to chemically react with NO<sub>x</sub> in the atmosphere.

Response: The commenter is referred to a detailed discussion of reactivity and LVP-VOCs in Chapters IV and V of the Draft Program EIR and the response to comment #1-1.

- 6a-8. Comment: The predominant organic compounds in water-borne coatings are a class of resins and additives (cosolvents) which include ethylene glycol and propylene glycol. Glycol compounds are exempted from the ARB's and U.S. EPA's consumer products regulations.



Response: The ARB staff considered a low-volatility (LVP-VOC) alternative for the proposed SCM. In Chapter V of the Draft Program EIR, the ARB staff extensively discussed the issues raised by the commenter, and concluded that it would not be appropriate to include an LVP-VOC exemption in the SCM. The commenter is referred to this discussion for a detailed response to this comment.

Although the ARB's and the U.S. EPA's consumer product regulations contain an exemption for low volatility compounds, there is no similar exemption in district architectural coating rules or for ARB's aerosol paint regulation. The ARB staff believes that the low volatility compounds mentioned by the commenter eventually are emitted completely from paints. Finally, Method 24 does not count as VOCs those VOCs that do not evaporate and remain in the film.

- 6a-9. Comment: The predominant organic compounds in solvent-borne coatings are a class of petroleum distillate carriers (mineral spirits), which are low in reactivity and do not contribute significantly to ozone formation.

Response: The commenter is referred to the More Reactivity section in Chapter IV of the draft Program EIR. The ARB staff disagrees with this comment. Existing data suggest that hydrocarbon solvents are reactive and are likely to form ozone once emitted. Using the U.S. EPA's approach of using the reactivity of ethane as being non-reactive, mineral spirits are at least 3 to 4 times more reactive than ethane. Mineral spirits that contain aromatics could be as much as 8 to 9 times more reactive than ethane.

- 6a-10. Comment: The U.S. EPA, ARB, and SCAQMD have never shown that the organic compounds in paints contribute materially or at all to ozone nonattainment, and notes that the U.S. EPA estimates that organic compound emissions from architectural coatings constitute about one percent of such emissions from all sources.

Response: The ARB staff disagrees with the commenter's statement concerning the contribution of architectural coatings VOCs to ozone levels. Historical ozone data as well as air quality modeling conducted by air districts in their Air Quality Management Plans reveals that ambient ozone concentrations have been reduced over time by a combination of VOC and NO<sub>x</sub> reductions. Thus, a concerted effort in reducing both NO<sub>x</sub> and VOC emissions from both mobile and stationary sources is required if ozone nonattainment areas are to meet the federal and state ambient ozone standards. In ARB's published 1996 emission inventory, architectural coatings are estimated to contribute statewide 130 tons per day of reactive organic gases (ROG), out of a total of 3,200 tons per day of ROG from all sources, and 1,470 tons per day of ROG for stationary sources. Thus, emissions of architectural coatings contribute about nine percent of stationary/area sources and four percent of total emissions statewide. A recent source apportionment study shows that surface coatings were a major contributor to ambient non-methane hydrocarbon in the South Coast Air Basin. Although the source apportionment study measured only emissions from solvent-borne coatings, one can extrapolate to the emissions of all coatings, and the percentage of the architectural coatings inventory in the source apportionment can be estimated to be four percent, the

same number as the ARB reports in its emission inventory. This subject is discussed in more detail in Chapter II of the Draft Program EIR.

- 6a-11. Comment: For 22 years, without scientific evidence, U.S. EPA, ARB, and the SCAQMD have waged war against the paint industry in the name of clean air.

Response: The ARB staff disagrees with the commenter's characterization of its indirect efforts to regulate VOC emissions from architectural coatings in the past. The ARB, the SCAQMD, and the U.S. EPA have never had a policy of "waging war" against the paint industry. The past as well as the current proposed SCM has and is premised on the ARB staff's best and comprehensive efforts to provide a workable model rule to local air districts. These past and present SCM versions are based on technologically and economically feasible coatings technology. Throughout these SCM efforts, the ARB staff has complied with all legal requirements and has provided an open public forum for affected industry to provide both oral and written comments. Furthermore, ARB staff has met and is willing to meet individually with industry representatives to discuss their particular concerns. This open and fair SCM process is far from the adversarial picture painted by the commenter.

- 6a-12. Comment: The commenter provides a history of paint regulation by the ARB.

Response: The commenter's recitation of the historical regulation of architectural coatings by the ARB is noted.

- 6a-13. Comment: State Implementation Plans (SIPs) containing architectural coatings rules have typically been approved and transmitted to the U.S. EPA by the staff, not the Board.

Response: The commenter is correct that, after public hearings have been conducted by the local air districts, SIPs are commonly approved and transmitted to the U.S. EPA by the ARB's Executive Officer. This is a well-accepted practice that the ARB has used for many years. The practice is authorized by Health and Safety Code sections 39515, 39516, and 39602.

- 6a-14. Comment: When the ARB attempts to ban coatings, industry and air districts rebel.

Response: The ARB staff is not quite sure what the commenter means by "rebellious." In fact, the position paper of the California Air Pollution Control Officers Association supports a strong SCM. In any event, the ARB staff disagrees with the commenter that the proposed SCM will result in a "ban" of coatings. The commenter presumes, incorrectly, that currently compliant products will be banned. See the response to comment #3-13.

- 6a-15. Comment: The commenter provides a history of U.S. EPA's regulation of paint.

Response: The commenter's recitation of the historical regulation of architectural coatings by the U.S. EPA is noted.

6a-16. Comment: If the federal Clean Air Act (CAA) were treated as a federal mandate “commandeering” local and state regulators, it would violate the Tenth Amendment of the U.S. Constitution.

Response: It appears that the commenter is suggesting that no governmental entity in the United States may regulate architectural coatings because the federal CAA is invalid under the Tenth Amendment of the U.S. Constitution. ARB’s counsel has carefully reviewed this legal argument and has found that it has no merit. In 1997 the commenter sued the ARB, the U.S. EPA, and the SCAQMD in federal District Court. One of the causes of action in this lawsuit was the commenter’s Tenth Amendment theory. In August 1997, District Court Judge Pregerson rejected this theory and ruled in favor of the ARB, the U.S. EPA, and the SCAQMD.

6a-17. Comment: The theory behind U.S. EPA’s National AIM Rule was to reduce VOC emissions through reformulation, not by banning coatings.

Response: The ARB staff agrees with the commenter’s portrayal of U.S. EPA’s intent behind the National AIM Rule. The ARB staff believes its proposed SCM is consistent with this intent. The ARB staff, through its own independent and comprehensive investigation, has found commercially available low-VOC compliant coatings with comparable performance to conventional coatings (see Appendix E and Table IV-2 in Chapter IV of the Draft Program EIR). Thus, the proposed SCM VOC content limits will not result in the ban of coatings since compliant coatings are available. If anything, the proposed SCM will cause reformulation of some coatings, but not the ban of existing products.

6a-18. Comment: The SCAQMD acted reasonably for 22 years in regulating paints.

Response: The ARB staff concurs with this statement and further believes the SCAQMD as well as other air districts currently act reasonably and in compliance with their statutory mandates in regulating architectural coatings.

6a-19. Comment: The SCAQMD has “gone off the deep end” with its 1996 and 1999 amendments to its Rule 1113.

Response: The ARB staff disagrees with the commenter’s assertion that the SCAQMD’s Rule 1113 has “gone off the deep end.” The ARB staff’s independent analysis of commercially available low-VOC compliant coatings supports the SCAQMD’s conclusions. However, as mentioned previously, the SCAQMD’s Rule 1113 is not at issue in this SCM process. This SCM’s focus should be on whether the ARB staff adequately evaluated the technical merits and environmental impacts of the proposed SCM.

6a-20. Comment: The SCAQMD’s coatings bans cannot be excused on the basis that they are technology forcing.

Response: The commenter is referred to responses to comments #6a-14, #6a-17, and #6a-19.

- 6a-21. Comment: The commenter, after attacking the SCAQMD's 1996 and 1999 amendments to Rule 1113, indicates that this comment letter is not the time or place to detail the SCAQMD's recent sorry performance.

Response: The ARB staff agrees that the commenter should focus on the ARB's proposed SCM and not the SCAQMD's Rule 1113. The commenter is referred to the response to comment #6a-19.

- 6a-22. Comment: The commenter mentions that the SCAQMD's draconian actions were taken without widespread public support and in the face of controversy, and cites newspaper articles and the stance of one SCAQMD Board Member who voted against the 1996 and 1999 amendments to Rule 1113.

Response: It is irrelevant whether the SCAQMD's amendments were widely supported by the public, and industry does not determine whether the rule amendments are valid. The determining factor in determining the validity of the rule is whether the amendments were made in compliance with the various statutory mandates, and are based on feasible technology. Based on ARB staff's independent analysis of the coatings technology commercially available, which also forms the basis of the proposed SCM, it appears that the SCAQMD's amendments meet these criteria. However, the focus of this SCM process should not be on the SCAQMD's Rule 1113, but the proposed SCM. The commenter is referred to the response to comment #6a-19.

- 6a-23. Comment: The ARB has now stepped into the same untenable position as the SCAQMD by proposing the SCM for architectural coatings.

Response: The ARB staff disagrees with the commenter's accusation that it is stepping into an untenable position by proposing the SCM and its VOC content limits. The ARB staff's independent investigation has found several low-VOC coating technologies that can meet the proposed limits. However, since the release of the NOP/IS, the ARB staff has revised the SCM to only include the interim limits, which will take effect in 2003 (2004 for IM coatings). The final limits have been dropped at this time due to resource constraints; deferring consideration of the final limits will allow ARB staff to focus on the interim limits. Thus, the ARB staff believes that the proposed SCM is being undertaken in a fair and open process that allows for industry and the public to voice their concerns. The commenter is referred to the response to comment #2-1.

- 6a-24. Comment: For 22 years, the U.S. EPA, the ARB, and the SCAQMD have "triple-teamed" industry with coatings regulations. The commenter argues that there is a need for one regulatory entity and the ARB should gracefully retire from the field. The U.S.EPA is the only agency with explicit rulemaking authority over architectural coatings.

Response: The ARB staff does not agree that only the U.S. EPA should regulate architectural coatings. Because of California's serious air quality problems, in many areas of the state it is necessary to have very strict air quality standards. It is therefore common for districts to have more stringent standards than the national standards for many source categories. What the commenter refers to as "triple-teaming" is simply the way that California has regulated air quality for many years in order to deal effectively with very serious air quality problems.

- 6a-25. Comment: The ARB does have oversight authority of air district rules, may provide assistance to any district, and has the responsibility to conduct research into the causes and effects of air pollution.

Response: The ARB staff acknowledges this comment.

- 6a-26. Comment: After 22 years in the paint field, it is doubtful whether districts any longer need the ARB's assistance, and whether there is any longer a need for the ARB to exercise its oversight powers by adopting a model rule. ARB should limit its actions to coordinating district efforts to harmonize California rules with the National AIM Rule, and conduct research on the volatility of glycols and the reactivity of mineral spirits.

Response: When the ARB adopts an SCM, such as this SCM for architectural coatings, the ARB is *not* exercising its oversight powers, as that term is commonly understood. The ARB would be exercising its oversight powers only if the ARB proposed to actually take over the powers of a district, held a public hearing within the district, and adopted the SCM as a district rule in order to impose binding regulatory requirements on industry and the public. The ARB is not doing this, but is instead considering the approval of the SCM as a nonbinding model rule that districts can then adopt if they choose to do so. Binding requirements would only be imposed if the SCM is subsequently adopted by a district. The ARB believes that developing the SCM is very useful for the districts, many of which do not have the resources to do the technical work themselves. The SCM has been harmonized with the national AIM rule to the extent that this is appropriate, in light of California's serious air quality problems and the long history of prior district regulation of this source category. The ARB will also continue to conduct research on reactivity and other areas related to architectural coatings.

- 6a-27. Comment: Because U.S. EPA has now adopted nationwide limits, state law prohibits inconsistent ARB standard setting.

Response: As explained in detail in the response to comment #6a-2, the ARB is convinced that the federal Clean Air Act does not preempt California from setting its own architectural coatings standards. The commenter's belief that state law somehow prohibits different standards from being set is equally incorrect, and is contradicted by the entire framework of air quality regulation established in Division 26 of the Health and Safety Code.

6a-28. Comment: The proposal and any adoption of the SCM are subject to the Administrative Procedure Act (APA).

Response: As explained in more detail in the response to comment #6a-5, the APA does not apply to the adoption of the SCM by the ARB.

6a-29. Comment: The ARB is preempted from regulating architectural coatings by U.S. EPA's National AIM Rule.

Response: As explained in more detail in the response to comment #6a-2, U.S. EPA's promulgation of the National AIM rule does not preempt California (or any other state) from adopting different architectural coatings rules.

6a-30. Comment: If the ARB stays in the paint game, it should adopt limits that are reasonable.

Response: The ARB staff's proposed limits are reasonable. The commenter is referred to responses to comments #6a-4, #6a-14, and #6a-17.

6a-31. Comment: Paint bans have massive economic costs and produce adverse environmental impacts.

Response: Regarding paint bans, the commenter is referred to responses to comments #6a-4, #6a-14, and #6a-17. Regarding the environmental impacts associated with implementation of the proposed SCM, the commenter is referred to the Draft Program EIR. In the context of economic costs associated with implementation of the proposed SCM, the commenter is referred to the Economic Analysis that will be included in the Staff Report for the Architectural Coatings SCM.

6a-32. Comment: Most air districts that have regulated paints have imposed limits that require reformulation, not the banning, of paints. The ARB's 1989 SCM, which attempted to outlaw certain solvent-borne coatings, has had no real effect in most areas.

Response: The commenter is referred to responses to comments #6a-4, #6a-14, and #6a-17.

6a-33. Comment: The U.S. EPA's National AIM Rule requires reformulation, not the banning, of paints.

Response: The commenter is referred to the response to comment #6a-17.

6a-34. Comment: The ARB should harmonize the SCM with U.S. EPA's National AIM Rule.

Response: The commenter is referred to the response to comment #3-17.

6a-35. Comment: If regulators continue to follow the regulatory course that the SCAQMD has undertaken, as evidenced by its recent amendments to Rule 1113, they can expect to find



industry seeking monetary damages in lawsuits, lobbying the state Legislature and Congress to overturn the regulators' authority, and using the press to undermine the public's confidence.

Response: If the commenter believes that these actions are the best way to deal with regulators, the commenter must ultimately do what it feels best to protect its interests. However, the ARB staff believes that this SCM process is open and fair and affords the commenter and others every opportunity to express their concerns and objections to the proposed SCM. ARB staff would be happy to meet individually with the commenter to discuss the commenter's specific concerns.

- 6a-36. Comment: Before taking any form of quasi-legislative action, the ARB must first analyze the environmental and economic effects of the major alternative approaches.

Response: The ARB staff is fully aware of its legal obligations in proposing this SCM. The ARB staff has prepared a comprehensive Program EIR and, although not legally required, will prepare an in-depth economic analysis. The commenter is referred to the Draft Program EIR for an analysis of the environmental impacts associated with the proposed SCM. The commenter is also referred to Appendix D of the Draft Program EIR for the technical justification for the proposed VOC limits in the SCM.

- 6a-37. Comment: The ARB is bound to follow the CEQA guidelines and CEQA case law when analyzing the environmental impacts of the proposed SCM.

Response: The ARB staff is fully aware of the CEQA requirements for preparing an environmental impact report and analyzing the environmental impacts associated with the proposed SCM. The ARB has met and exceeded all CEQA requirements in the preparation of the Draft Program EIR.

- 6a-38. Comment: Prior to offering comments on the SCAQMD's Rule 1113 amendments and circulating the proposed SCM, the ARB failed to prepare an EIR-equivalent analyzing the following environmental impacts of the proposed SCM: (1) aesthetic impacts of the first and second set of limits; (2) health and safety impacts thereof; (3) increased volatility of emissions after the first set of limits; (4) increased reactivity thereafter; (5) increased emissions thereafter; (6) adverse ozone impacts of substitutes for paint products; and (7) alternatives.

Response: The ARB staff disagrees with the commenter's claims. CEQA does not require an agency to prepare "an EIR-equivalent" when expressing an opinion on another agency's project. The ARB staff has released preliminary versions of the SCM at the various public workshops for discussion purposes. However, the release of these versions does not require that "an EIR-equivalent" be prepared. The preparation of the appropriate CEQA document is required once the lead agency determines the scope of the project. The Draft Program EIR is based on the SCM version that the ARB staff has determined is the project and comprehensively analyzes the environmental impacts associated with the proposed SCM. Aesthetic impacts are addressed in the

Environmental Impacts Found Not to Be Significant section in Chapter IV of the Draft Program EIR. Health and safety impacts are discussed in detail in the Human Health and Hazards sections, respectively, in Chapter IV of the Draft Program EIR. Volatility impacts are addressed in the Low Vapor Pressure section of Chapter V in the Draft Program EIR. Potential reactivity impacts are specifically addressed in the More Reactivity section of Chapter IV of the Draft Program EIR. This topic is also extensively addressed in response to comment #1-1. In addition, the reasons for rejecting a reactivity-based alternative are addressed in Chapter V of the Draft Program EIR. The industry issues regarding potential increases in VOC emissions from the proposed SCM are addressed in the following subsections of the Air Quality section of Chapter IV: More Thickness, Illegal Thinning, More Priming, More Topcoats, More Touch-ups and Repair Work, More Frequent Recoating, and Substitution. Lastly, project alternatives are addressed at length in Chapter V of the Draft Program EIR.

Furthermore, since the release of the NOP/IS, the ARB staff has dropped the final VOC limits to allow ARB staff to focus on the interim limits. The commenter is referred to the response to comment #2-1.

- 6a-39. Comment: The NOP/IS appears not to have addressed aesthetic impacts, health and safety impacts, and adverse ozone impacts due to substitutes, nor certain alternatives, including manufacturer disclosures.

Response: The NOP/IS is a brief notice sent by the lead agency to notify responsible agencies, trustee agencies, involved federal agencies, and other interested parties that the lead agency plans to prepare an EIR for a project with potentially significant impacts (CEQA Guidelines §15082). The purpose of the NOP/IS is to solicit guidance from those agencies or parties as to the scope and content of the environmental information to be included in the EIR. At this early stage of project development, the NOP/IS is not intended to evaluate the environmental impacts of the project. Thus, the NOP/IS for the proposed SCM was only intended to notify certain government agencies as well as other affected parties of the fact that ARB was undertaking this project and ARB's initial impressions of what potential significant impacts may result from the proposed SCM. As to the analysis of the potential impacts associated with the proposed SCM, the commenter is referred to the Draft Program EIR, which analyzes in detail the aesthetic impacts, health and safety impacts, ozone impacts due to substitutes, and alternatives. The commenter is also referred to the response to comment #6a-38.

- 6a-40. Comment: The commenter describes certain rulemaking requirements of the Administrative Procedure Act (APA), namely the requirement to assess whether a proposal will affect the elimination of existing businesses or jobs within California, and to assess the potential for adverse economic impacts on California business enterprises and individuals.

Response: As explained in more detail in the response to comment #6a-5, APA requirements do not apply to the adoption of the SCM by the ARB, since the SCM is not a "regulation" within the meaning of the APA.



6a-41. Comment: The ARB has proposed a draconian regulation without conducting the legally mandated economic analysis.

Response: As explained in more detail in the response to comment #6a-5, APA requirements (including the APA requirements to prepare an economic analysis) do not apply to the adoption of the SCM by the ARB. However, the ARB staff plans to conduct an economic analysis even though it is not legally required, because staff believes that it is good public policy to do so.

6a-42. Comment: The ARB has aided and abetted the blunder that the SCAQMD made in its 1999 amendments to Rule 1113.

Response: The ARB staff disagrees with the commenter's allegations. The commenter is referred to responses to comments #6a-1, #6a-4, #6a-14, #6a-17, #6a-19, #6a-21, #6a-22, #6a-23, #6a-24, and #6a-25.

6a-43. Comment: The ARB should get out of the business of regulating the paint industry and leave it to U.S. EPA. If it stays in the game, ARB should harmonize its SCM with U.S. EPA's National AIM Rule, most district rules, and its own 1981 and 1984 actions. ARB must not take any further action until it conducts its own environmental review under CEQA and its own economic review under the Administrative Procedures Act.

Response: Regarding the harmonization of the SCM with the U.S. EPA's National AIM Rule, the commenter is referred to responses to comments #6a-1, #6a-2, #6a-17, #6a-25 - #6a-30, and #6a-34.

Regarding the comment that the ARB conduct the appropriate environmental and economic analysis, the commenter is referred to responses to comments #6a-5, #6a-36, #6a-37, #6a-38, #6a-40, and #6a-41.

**COMMENT LETTER #6b**  
**Law Offices of Smiland and Khachigian**  
**August 17, 1999**

- 6b-1. Comment: The commenter requests a complete bibliography of any studies, articles, reports, or other documents to support the statement in the NOP/IS that ambient VOC concentrations cause coughing, sneezing, headaches, etc.

Response: The statement in the NOP/IS is from Davis, R. K., L. V. Urban, and G. S. Stacy, 1977. Environmental Impact Analysis: A New Decision in Decision Making. Van Nostrand Reinhold Co, New York, New York. The ARB staff notes that the term "VOC" is a generic one that includes many different compounds such as benzene, toluene, and xylenes. Many solvents used in architectural coatings formulations are VOCs. The health effects mentioned in the NOP/IS are caused by an individual's exposure to one or more individual VOCs in the ambient air. There are numerous studies documenting the acute, chronic, and carcinogenic health effects of various VOCs, more than are possible to list here. However, for examples of studies of health effects of VOC solvents found in architectural coatings, the commenter is referred to the following studies:

Baker, E.L., R.E. Letz, E.A. Eisen, L.J. Pothier, D.L. Plantamura, M. Larson, and R. Wolford. Neurobehavioral Effects of Solvents in Construction Workers. *Journal of Occupational Medicine* 30(2):116-123, 1988.

Bolla, K.I., B.S. Schwartz, W. Stewart, J. Rignani, J. Agnew, and D.P. Ford. Comparison of Neurobehavioral Function in Workers Exposed to a Mixture of Organic and Inorganic Lead and in Workers Exposed to Solvents. *American Journal of Industrial Medicine* 27:231-246, 1995.

Mikkelsen, S. Epidemiological Update on Solvent Neurotoxicity. *Environmental Research* 73:101-112, 1997.

Olson, B.A. Effects of Organic Solvents on Behavioral Performance of Workers in the Paint Industry. *Neurobehavioral Toxicology and Teratology* 4(6):703-708, 1982.

- 6b-2. Comment: The commenter supports consideration of the seven project alternatives listed in the NOP/IS, especially the low vapor pressure and reactivity alternatives.

Response: The Draft Program EIR comprehensively analyzes all project alternatives in Chapter V. The commenter is also referred to the response to comment #1-9.

- 6b-3. Comment: The ARB must analyze the non-renewable resources impacts resulting from the use of non-paint alternatives such as vinyl or aluminum siding or interior wall coverings, in lieu of unsatisfactory paints.

Response: Based on the ARB staff's analysis and the NTS study, implementation of the proposed SCM is not expected to result in substitution of low-VOC coatings with non-paint alternatives. Commercially available coatings that meet the proposed SCM VOC content limits perform comparably to conventional coatings in a variety of applications (see Appendix D, Appendix E and Table IV-2 in Chapter IV of the Program EIR). It is highly speculative that users will abandon paints altogether for non-paint substitutes when compliant performing coatings are available. Further, the commenter provides no evidence that this scenario will actually occur. Therefore, ARB staff does not anticipate significant non-renewable resources impacts from the proposed SCM. The commenter is referred to the Environmental Impacts Found Not To Be Significant section of Chapter IV.

- 6b-4. Comment: The Draft Program EIR must analyze aesthetics impacts resulting from the ban of over 90 percent of all architectural coatings.

Response: ARB staff does not agree that implementation of the SCM will result in a ban of paints (the commenter is referred to the responses to comments #6a-4, #6a-14, and #6a-17). Based upon information gathered by ARB staff on currently available compliant products, which have performance characteristics comparable to conventional coatings, significant aesthetic impacts are not expected. The commenter is referred to Appendix E and the related summary tables in Chapter IV of the Program EIR. The commenter is also referred to the Environmental Impacts Found Not to Be Significant section in Chapter IV of the Draft Program EIR.

- 6b-5. Comment: The NOP/IS fails to adequately address the potential health and safety impacts of the project as well as increased reactivity, increased volatility, and increased emissions, and that the Draft Program EIR must address substantially more impacts than those identified in the NOP/IS.

Response: The ARB staff believes that the Draft Program EIR, pursuant to CEQA, comprehensively analyzes all of the potential impacts mentioned by the commenter. See the response to comment #6a-38.

**COMMENT LETTER #7**  
**Textured Coatings of America (TCA)**  
**June 24, 1999**

- 7-1. Comment: ARB should establish specialty coatings categories for concrete protective, anti-graffiti, specialty primer, and mastic textured coatings at the recommended VOC limits of 400, 600, 350, and 300 g/l, respectively. For each category, the commenter provides technical justification for the coating and why lower VOC coatings are not an adequate substitute; the additional VOC emissions that would be associated with the coatings at the recommended VOC levels; and why the averaging provisions cannot be effectively used to keep these coatings in the market.

Response: The commenter is referred to the response to comment #7-2 for concrete protective coatings. For anti-graffiti coatings, our analysis did not identify a need for a separate anti-graffiti limit. We are aware of both permanent and sacrificial anti-graffiti coatings that meet proposed SCM limits for IM coatings. In fact, some anti-graffiti coatings are well below the proposed limits for flat and non-flat coatings, and some are zero or near-zero VOC. The sales weighted average VOC for anti-graffiti coatings in ARB's 1998 architectural coatings survey is 225 g/l, and the sales weighted average VOC for water based anti-graffiti coatings is 92 g/l. For specialty primers, we have added a new category with a limit of 350 g/l. For mastic textured coatings, the VOC limit in the SCM has been revised to be 300 g/l. The commenter is referred to the response to comment #1-10 and #2-6 for the averaging provision comment.

- 7-2. Comment: Concrete Protective Coatings – a VOC content of 400 g/l is required to achieve the desired performance and application characteristics. Low-VOC coatings cannot penetrate form oils and release agent materials used in the forming of the concrete and thus do not have good adhesion.

Response: The commenter is referred to a discussion of this category in Appendix E of the Draft Program EIR. Staff is aware of numerous waterproofing sealer products that meet the proposed VOC limit of 250 g/l. In addition, we believe the lower VOC products will adhere well with proper surface preparation. As with all coatings, the surface needs to be properly prepared prior to application of a coating for optimal performance. Thus, ARB does not believe it is necessary to have a separate category for these coatings.

- 7-3. Comment: With the increased use of tilt-up concrete (pre-formed concrete that is delivered to a building site and "tilted up"), VOC emissions will increase due to frequent repainting.

Response: Concrete should be allowed to cure for 30 to 60 days before coating, and the moisture content should be no higher than 15 percent to ensure success. Moisture is a common cause of coatings failing to properly adhere on concrete. If moisture can penetrate cured concrete it will leach out alkaline salts that can react with the resin in many coatings causing early adhesion failure. A test for moisture migration should be conducted if a moisture condition is suspected.

Release compound is formulated to weather off within a relatively short time, and should decompose by the time the concrete has cured to the correct moisture content. It is only necessary to brush off the decomposed release compound before coating. Release compound not decomposed by weathering must be removed before coating for proper adhesion. Water or abrasive blasting will effectively remove release compound.

A review of product data sheets indicates there are products for the specific applications indicated by the commenter that comply with the proposed standard. For all but one product, use instructions direct the applicator to allow the concrete to fully cure, as specified above.

- 7-4. Comment: Because the company is a manufacturer of specialty coatings, it cannot use the averaging provision. A company needs diverse product lines to use an averaging provision.

Response: Participation in the averaging program would be optional if such a provision is included in the final SCM. We have noted the commenter's concern and may be able to address it if an averaging program is developed. For example, a trading provision would allow such manufacturers to purchase credits from manufacturers with broader product lines. We encourage the commenter to participate in the development of the provision.

- 7-5. Comment: The commenter claims that its anti-graffiti coatings at a VOC content limit of 600 g/l provide the only effective protection for surfaces that cannot be recoated (*e.g.*, murals).

Response: The ARB staff has found permanent anti-graffiti systems that comply with the proposed SCM VOC content limits. The commenter is referred to the responses to comments #3-10 and #7-1.

- 7-6. Comment: The commenter asserts that the use of its anti-graffiti coatings will reduce VOC emissions associated with frequent repainting as compared to other systems with VOC content limits below 600 g/l. An exemption should be granted because the 1998 CARB survey shows that the usage associated with anti-graffiti coatings is so small.

Response: We agree that anti-graffiti products are a relatively small source of VOC emissions compared to other categories of architectural coatings and that anti-graffiti paints can prevent the emissions associated with repainting to cover graffiti. However, numerous low-VOC anti-graffiti products are available that provide the same benefits as higher VOC anti-graffiti products. As in the responses to comment # 7-1 and # 7-5, numerous manufacturers produce both sacrificial and permanent anti-graffiti coatings that comply with the limits for flat and non-flat coatings in the SCM. Many of those products are zero-VOC or near zero-VOC products.

7-7. Comment: Because the company is a manufacturer of specialty coatings, it cannot use the averaging provision. A company needs diverse product lines to use an averaging provision.

Response: The commenter is referred to the response to comment # 7-4.

7-8. Comment: Specialty Primers – lower VOC products cannot penetrate form oils on tilt ups.

Response: The commenter is referred to the response to comment # 7-2.

7-9. Comment: Because the company is a manufacturer of specialty coatings, it cannot use the averaging provision. A company needs diverse product lines to use an averaging provision.

Response: The commenter is referred to the response to comment # 7-4.

7-10. Comment: Mastic Textured Coatings – a solvent film will stay wet longer than a latex mastic and will accept coating application for uniformity. VOC emissions will increase from frequent repainting associated with the use of low-VOC compliant mastics.

Response: The proposed VOC limit for this category has been revised to 300 g/l, the level suggested by the commenter. This is the level most commonly found in California district architectural coatings rules.

7-11. Comment: Because the company is a manufacturer of specialty coatings, it cannot use the averaging provision. A company needs diverse product lines to use an averaging provision.

Response: The commenter is referred to the response to comment # 7-4.

7-12. Comment: If the proposed SCM limits go into effect, TCA will have to close down its Los Angeles factory and relocate it outside the state.

Response: We believe the limits proposed are technologically feasible. It is an individual manufacturer's decision to reformulate or exit the market. However, mastic texture coatings represent the bulk of product volume produced by TCA, and we have revised the VOC limit for that category back to 300 g/l, the most common limit currently in effect in California districts with architectural coatings rules. That is also the VOC limit for that category under the National Rule. Thus, the proposed SCM limits may not impact TCA.

**COMMENT LETTER #8**  
**Ameron International**  
**July 20, 1999**

8-1. Comment: There is a need for a chemical storage tank coating category in the proposed SCM.

Response: The commenter is referred to comment # 5-1.

8-2. Comment: There is a need for a nuclear coating category in the proposed SCM.

Response: Although the nuclear coatings category is not large, we do not believe a separate category with a higher VOC limit is necessary. We have identified several nuclear coatings for both concrete and steel that meet the 250 g/l VOC limit for IM coatings. ARB staff collected information on nuclear coatings in its 1998 architectural coatings survey and found that the sales weighted average VOC level for those coatings was 50 g/l.

8-3. Comment: The definition of tint base needs to be clarified.

Response: The definition has been revised in response to the comment.

8-4. Comment: The commenter cannot envision that technology will advance to the point to meet the 2006 IM limit.

Response: The limit initially proposed for 2006 is no longer being proposed at this time.

8-5. Comment: The commenter believes that in order to meet the 2002 IM limit, some provisions (e.g., averaging and low volume usage) have to be made for low volume, non-compliant use products.

Response: The final SCM may include an averaging provision that will provide compliance flexibility while preserving emission reductions. To provide additional time for compliance, the proposed effective date for the IM limit has been extended to 2004.

8-6. Comment: Some consideration must be given to atmospheric conditions during the application of coatings. While the South Coast has a very moderate climate that lends itself to easier coatings applications, high temperatures, low temperatures, and high humidity environments can exist in the rest of California. The commenter believes that higher VOC limits are needed for applications under these extreme conditions, and suggests that 340 g/l may be appropriate.

Response: We have committed to evaluating the influence of climatic conditions on coating applications and have requested relevant information from coating manufacturers. To date, we have received very little information upon which to base such an evaluation.

However, based upon the information received to date, the proposed VOC limits are technically feasible under varying climatic conditions.



**COMMENT LETTER #9**  
**Euclid Chemical Co.**  
**July 9, 1999**

- 9-1. Comment: There is a need for a separate category regarding curing and sealing compounds at 700 g/l.

Response: The commenter is referred to a discussion of this category in Appendix E of the Draft Program EIR. There are a number of formulation technologies available that can meet the 350 g/l concrete curing compound limit while providing the needed curing and sealing of the concrete. Thus, staff does not think this category with a 700 g/l limit is warranted.

**COMMENT LETTER #10**  
**The Valspar Corporation**  
**July 22, 1999**

- 10-1. Comment: The proposed limits will likely eliminate a number of important coatings, which will protect homes and commercial buildings throughout California.

Response: The 1998 ARB Architectural Coatings Survey showed large market shares of products in the flat and non-flat categories that would comply with the proposed limits. Our evaluation of product information showed that there is a wide variety of product types that would comply with the proposed limits with performance characteristics similar to higher VOC coatings.

- 10-2. Comment: The flat 2001 limit of 100 g/l may allow for the use of medium quality paints, but high-performing paints will not be available. Compliant flats will have repeated washing, application, and freeze-thaw problems. These problems are even more of a concern with compliant flats meeting the 50 g/l limit.

Response: Our survey of product information indicates that a variety of manufacturers have been able to use available technology to achieve desirable properties for flat coatings with VOC levels at or below 100 g/l. Our survey indicates that there are a number of existing interior and exterior coatings that meet the proposed limit that are marketed as premium quality coatings. Further, the product information indicates that there are complying coatings with excellent scrub resistance and durability. Also, there are complying coatings that allow for low temperature application and products with good freeze-thaw resistance. The 50 g/l limit is no longer being proposed at this time.

- 10-3. Comment: The 2002 and 2006 limits for nonflats have the same problems, especially with freeze-thaw, film building, and film durability.

Response: The limit initially proposed for 2002 is now proposed for 2003, and the 2006 limit is no longer being proposed at this time.

Our survey of product information sheets indicates that there are a number of complying interior and exterior low and medium gloss coatings that are identified by their manufacturers as premium quality coatings. Further, the product information indicates that there are complying coatings with excellent durability, washability, and abrasion resistance. Also, there are complying products that allow for low temperature application and products with very good block resistance. Available information also suggests that the 150 g/l limit allows for the formulation of non-flat coatings with sufficient freeze-thaw resistance. Our survey of product information indicates that a variety of manufacturers have been able to use available technology to achieve a balance in desirable properties for the low and medium gloss paints with VOC levels at or below 150 g/l. The proposed effective date of January 1, 2003, will allow sufficient time for formulation of high gloss products with VOC content of 150 g/l that are comparable to higher VOC products over a broad range of performance characteristics.

- 10-4. Comment: The ARB is encouraged to more thoroughly investigate the effects of VOC reduction for flats and nonflats.

Response: ARB staff performed an extensive technical evaluation on the feasibility of the proposed limits for flat and nonflat coatings as part of the development of the SCM.

- 10-5. Comment: The VOC limits for floor coatings at 100 g/l (2002) and 50 g/l (2006) are too low for acceptable floor paints.

Response: The SCM no longer proposes a 50 g/l limit. Results of the ARB Architectural Coatings Survey indicate that about 128 floor coating products would comply with the proposed 100 g/l limit; those products represent about 35 percent of the market. Although the highest performance for floor coatings is provided by two-component formulations (epoxies and urethanes), there are many single-component floor coatings available that comply with the proposed limit of 100 g/l.

- 10-6. Comment: The quick-dry enamel limit should be at least 400 g/l because waterborne enamels do not dry fast enough, are not high enough in gloss, and do not have block resistance.

Response: We were able to identify, through product information sheets published by coatings manufacturers, a number of coatings that appear to meet the gloss and dry time criteria of quick-dry enamels and have VOC levels at or below 250 g/l. One of those coatings was described as having very-good non-blocking characteristics, demonstrating that current technology provides the ability to include such characteristics in a coating formulation.

In addition, independent laboratory studies conducted by NTS and Harlan and Associates identified commercially-available coatings with VOC levels at or below 250 g/l that meet the gloss and dry time criteria of quick dry enamels. Results of laboratory tests of block resistance for those lower VOC coatings (giving the most weight to the recent NTS tests which better reflect current technology) indicate that some of the lower-VOC coatings tested performed as well or better than high-VOC coatings. Those results suggest that some manufacturers have been able to formulate and market high gloss, quick drying coatings with good block resistance that meet the proposed 250 g/l limit.

- 10-7. Comment: A separate specialty primer category should be established with a VOC limit of 400 g/l. Waterborne primers do not prevent water-soluble stains like wood tannins and smoke stains from bleeding through.

Response: A review of available product data sheets indicates there are water-based specialty primers below 350 g/l available that are recommended for use on water damaged substrates, and which make claims of preventing the recurrence of water soluble stains. Product data sheet review also indicates that solvent-based specialty primers are available with a VOC content of 350 g/l or less which make similar claims.

- 10-8. Comment: A separate category entitled masonry conditioners and sealers with a VOC limit of 550 g/l should be established. Waterborne primers do not penetrate chalky substrates.

Response: We have established a category for specialty primers, as discussed in response to comment #10-7. The specialty primer category, with a proposed VOC limit of 350 g/l, includes those products that are for use on excessively chalky substrates.

- 10-9. Comment: The proposed SCM limit for semi-transparent stains of 250 g/l is too low. Waterborne semi-transparent stains open the wood's grain and dries too fast.

Response: Until recently, waterborne stains were typically based on acrylic emulsions. Unfortunately, those formulations result in more grain raising and shorter open times than conventional solvent-borne alkyd and oil based systems. With new technology (*e.g.* alkyd/acrylic hybrid polymers, alkyd-modified acrylics, and modified acrylic/water dispersible drying oil formulations) excellent open times and virtually no grain raising are possible.

- 10-10. Comment: The proposed SCM limit for waterproofing wood sealers of 250 g/l is too low. Subsequent coats of waterborne sealers do not adhere well.

Response: The technology assessment performed by ARB staff was the basis for the proposed limit. Staff does not believe the limit is too low. The ARB survey results indicate the availability of 95 products, representing 13 percent of the market, which would comply with the proposed limit. Regarding the ability of second coats to adhere well, this can be said of many coating formulations regardless of the specific category. Many coating technologies have specific limitations on the "recoat window," the timeframe in which a second coat must be applied. For some waterborne wood sealers, the second coat must be applied "wet-on-wet." The waterproofing technology of certain products cause water to bead up and run off treated surfaces. As the treated surface ages, this characteristic will be lost, and subsequent coats of the same products are possible and should adhere well.

- 10-11. Comment: The ARB staff should research the technological possibilities of achieving the proposed limits while considering whether they are widely available for all applications.

Response: Such a technical evaluation was performed in the development of the SCM.

**COMMENT LETTER #11**  
**Sierra Performance Coatings**  
**July 22, 1999**

- 11-1. Comment: The proposed SCM limits for IM coatings of 250 g/l are too high and the compliance date of 2002 is too late. The technology exists today to meet this limit. The limit should be 100 g/l starting 01/01/01.

Response: The proposed limit and timeframe for compliance were developed for a broad range of product types and applications. The commenter is also referred to the response to comments #5-1, #11-2, and #11-7.

- 11-2. Comment: The proposed limit fails to adopt “best available controls” pursuant to §183(e) of the CAA.

Response: Section 183 (e) of the Clean Air Act (CAA) requires the Administrator of the U.S. EPA to promulgate regulations requiring “best available controls,” as defined in CAA section (e)(1)(A). This CAA provision applies only to the Administrator of the U.S. EPA. It does not apply to the ARB. However, the commenter may not be making a legal point; the basic thrust of this comment seems to be that the ARB could adopt more stringent VOC limits for certain product categories. Response # 2-1 explains why the ARB has chosen to address only the interim limits at this time and to postpone consideration of the final limits until after completion of this project.

- 11-3. Comment: The SCAQMD’s Phase II Assessment of the NTS study indicates that low-VOC products generally perform just as well as high VOC products.

Response: The ARB staff’s review of the NTS data shows that a number of low-VOC IM products have a number of performance characteristics that are comparable to those of higher-VOC coatings. ARB staff has proposed a VOC limit and compliance timeframe that considers the broad range of product types and applications in the IM category.

- 11-4. Comment: High performance, low-VOC paint products are commercially available, and there have been tremendous advances in raw materials technology over the last five years, so that low-VOC resins and curing agents are now common.

Response: The commenter is referred to the response to comment #11-3.

- 11-5. Comment: The widespread commercial availability of high-performance, low-VOC products demonstrates that a VOC content limit of 100 g/l is technologically and commercially feasible.

Response: The ARB staff agrees that high-performance, low-VOC products are commercially available. The commenter is referred to the response to comment #11-1 regarding the 100 g/l VOC limit.

- 11-6. Comment: The SCAQMD's Phase II Assessment of the NTS study indicates that zero-VOC products perform best overall.

Response: The commenter is referred to the response to comment #11-3.

- 11-7. Comment: The SCAQMD, in its 1999 amendments to Rule 1113, identified some 55 commercially available high-performance IM coatings at 100 g/l.

Response: The industrial maintenance coatings category covers a very broad range of coating uses and coating formulations. The proposed VOC limit of 250 g/l and the proposed effective date (revised to January 1, 2004) would provide more opportunity for a broader variety of coating formulations to be available in the future to meet those varied needs. For example, the current alkyd formulations are solvent-based in the vicinity of 400 g/l. We are aware of efforts to develop low-VOC alkyd formulations, including water-reducible alkyds. We believe that the proposal would allow resin and coating manufacturers to continue to develop different types of low-VOC coatings. This would ultimately provide more flexibility to industrial end-users to address specific coating needs in the future.

- 11-8. Comment: The commenter objects to an averaging provision, stating that it is a loophole with potential for circumvention of the standards.

Response: The averaging provision, if included in the final SCM, is an option available to manufacturers that would allow compliance flexibility without compromising the emission reductions that would have been achieved in the absence of averaging. The averaging provision would not provide a loophole because it would establish reporting requirements and a violation provision to ensure compliance. The commenter is referred to Chapter V of the Draft Program EIR.

- 11-9. Comment: VOCs are the main component in forming ground-level ozone. Additionally, the commenter notes the harmful health affects associated with exposure of individuals to unhealthful ozone levels.

Response: The ARB staff agrees that VOC emissions, along with NO<sub>x</sub> emissions, are the main contributors to the formation of unhealthful ground-level ozone. The ARB staff also agrees that exposure to unhealthful ozone levels can cause a multitude of health problems. The commenter is referred to Chapter III of the Draft Program EIR as well as the response to comment #6b-1.

- 11-10. Comment: Studies have shown that painters exposed to solvents in paints can suffer a multitude of adverse health effects.

Response: The ARB staff is familiar with these studies and believes that they provide additional support for the need to reduce or replace more hazardous/toxic solvents in coatings with less hazardous/toxic solvents. Currently, it appears that reducing hazardous

ingredients in paints is the trend among resin manufacturers and coatings formulators when reformulating higher-VOC coatings to low-VOC compliant coatings. The commenter is referred to the “Human Health” section of Chapter IV in the Draft Program EIR.

- 11-11. Comment: The proposed SCM fails to adopt the “best available controls” and is therefore inconsistent with ARB’s duty under the federal Clean Air Act. The ARB should lower the VOC limit for IM coatings to 100 g/l and should implement the SCM before January 1, 2001.

Response: The commenter is referred to comment #11-1 and 11-2.

**COMMENT LETTER #12**  
**Flame Control Coatings, Inc.**  
**July 12, 1999**

- 12-1. Comment: The proposed VOC limits for fire retardant coatings are lower than the fire retardant coating industry can achieve at the present time. The limits should be 350 g/l for pigmented coatings and 650 g/l for clear coatings.

Response: In an earlier version of the SCM, we proposed lower VOC limits for fire-retardant coatings, based on survey information. We subsequently returned those limits to the existing limits in district rules (*i.e.*, 350 g/l for opaque coatings and 650 g/l for clear coatings) after further research into reformulation options.

- 12-2. Comment: The definition of fire retardant coatings should be clarified.

Response: Our investigation has verified the commenter's points and we have modified the definition accordingly.

- 12-3. Comment: Flame Control Coatings is a world leader in fire retardant paints, varnishes, and mastics.

Response: No response is necessary.

- 12-4. Comment: If the limits are not raised as requested, Flame Control Coatings will no longer be able to sell its products in California.

Response: The commenter is referred to the response to comment #12-1.



**COMMENT LETTER #13a**  
**Wm. Zinsser & Co., Inc.**  
**July 21, 1999**

13a-1. Comment: The commenter is opposed to the change in the definition of shellac to include natural resins. This will lead to confusion and create a loophole for manufacturers.

Response: We agree with the commenter and have, therefore, changed the shellac definition back to its previous wording. Shellacs shall include only those coatings that are solely formulated with the resinous secretions of the lac beetle (*Laccifer lacca*), which is how shellac has been defined for hundreds of years. The proposed definition is consistent with the 1989 SCM's shellac definition, and is the most common shellac definition found in the California districts' architectural coatings rules. Since the shellac category has been regulated for many years and the VOC limit is relatively high, it is important that we limit the definition so that the SCM's emission reductions are not compromised. Coatings containing other natural resins may continue to use the most applicable coating category, just as they have in the past. We believe that any substantial change to the definition will not only confuse consumers, but also may reduce the estimated emission reductions from the SCM.

**COMMENT LETTER #13b**  
**Wm. Zinsser & Co., Inc.**  
**July 12, 1999**

13b-1. Comment: The commenter is opposed to the change in the definition of shellac to include natural resins. This will lead to confusion and create a loophole for manufacturers.

Response: The commenter is referred to the response to comment #13a-1.

**COMMENT LETTER #13c**  
**Wm. Zinsser & Co., Inc.**  
**July 9, 1999**

13c-1. Comment: The commenter is opposed to the change in the definition of shellac to include natural resins. This will lead to confusion and create a loophole for manufacturers.

Response: The commenter is referred to the response to comment #13a-1.

**COMMENT LETTER #14**  
**Zehrunge Brands**  
**July 15, 1999**

- 14-1. Comment: The commenter is opposed to the change in the definition of shellac to include natural resins. This will lead to confusion and create a loophole for manufacturers. Lower VOC coatings will be relabeled as shellacs to get higher VOC limit.

Response: The commenter is referred to comment #13a-1.

- 14-2. Comment: If the new shellac definition becomes law, 550 g/l VOC alcohol-based non-shellac primers will begin to displace the more commonly used solvent-based alkyd formulations.

Response: The commenter is referred to the response to comment #13a-1.

- 14-3. Comment: Solvent-based alkyd primers will be replaced because pure shellac formulations have unique characteristics and are expensive.

Response: The commenter is referred to the response to comment #13a-1.

- 14-4. Comment: The shellac definition should be restored.

Response: The commenter is referred to the response to comment #13a-1.

- 14-5. Comment: Non-shellac products could replace shellacs. Massive substitution could occur leading eventually to a lowering of the VOC for this category or elimination of the shellac category.

Response: The commenter is referred to the response to comment #13a-1.

- 14-6. Comment: Has the ARB explored the ramifications of mandating label wording, in this case requiring a category of products be labeled or identified as "shellac," when in fact the products do not have shellac in them?

Response: The commenter is referred to the response to comment #13a-1.

**COMMENT LETTER #15**  
**AKZO Nobel**  
**June 25, 1999**

15-1. Comment: For the definition of low solids coating, is the volatile component measured by weight or volume?

Response: The definition for that category has been revised. The definition no longer requires that at least half of the volatile component be water.

15-2. Comment: The ARB should include methyl acetate in the list of exempted low-reactive organic compounds.

Response: The list has been revised in response to the comment.

**COMMENT LETTER #16**  
**TruServ Manufacturing Co.**  
**July 15, 1999**

- 16-1. Comment: The proposed SCM VOC content limits are based on incomplete and inaccurate information. More consideration should be given to the rulemaking process before the SCM is adopted.

Response: The commenter is referred to the responses to comments #3-13 and #3-16.

- 16-2. Comment: Inaccuracies in the 1998 ARB survey must be reviewed and corrected before they are taken as fact.

Response: The survey has been very carefully reviewed for inaccuracies. The survey was finalized in September 1999 and made available to the public. The 1998 survey provides the most current and accurate information on architectural coatings in California. The survey was only one of many elements that we considered in our analysis of the feasibility of the proposed limits.

- 16-3. Comment: Most of the alternatives listed in the NOP/IS are unusable. In particular the commenter notes: (1) almost no manufacturers can use the averaging alternative; (2) the low vapor-pressure alternative would be of little benefit; and (3) the seasonal alternative would be a logistical nightmare.

Response: Each of the project alternatives mentioned in the NOP/IS, as well as additional alternatives suggested by industry during the development of the proposed SCM, are comprehensively analyzed in Chapter V of the Draft Program EIR.

- 16-4. Comment: Paint is used not only for decoration, but for protection of surfaces. The commenter also states that painting contractors have said at various workshops that coatings at current VOC limits exhibit only marginal performance. It is not known what further lowering of the VOC content will bring because there will not be enough time to reformulate and test reduced-VOC products.

Response: The ARB staff disagrees with the commenter's assertion. According to the product data sheets analyzed by the ARB staff, many compliant low-VOC coatings perform comparably to conventional coatings in a variety of applications (see the tables in Appendix E and the related summary tables in Chapter IV of the Program EIR). In addition, the SCAQMD's NTS study shows that overall, coatings that meet the SCM VOC content limits exhibit similar performance characteristics as conventional coatings.

- 16-5. Comment: According to the SCAQMD's NTS study, compliant low-VOC nonflats are freeze-thaw unstable. This will lead to increased traffic impacts because out-of-state manufacturers would have to deliver products during the three high ozone seasons to avoid freezing en route.

Response: Significant adverse traffic impacts are not expected due to freeze-thaw problems. First, it is improbable that an additional 350 heavy-duty truck trips (deliveries) per day would occur at any one location as a result of restricting shipping to three seasons. Second, manufacturers of low-VOC resin technology indicate that the inclusion of surfactants will help eliminate freeze-thaw problems. The commenter is referred to the Transportation/ Circulation section of Chapter IV in the Draft Program EIR.

- 16-6. Comment: The ARB should consider: (1) adding more subcategories to nonflats; (2) extending the 2002 limits to 2004; (3) dropping the 2006 limits and revisiting them at a later date; and (4) extending the SCM adoption date to June 2000.

Response: With regard to adding more subcategories for nonflats, the commenter is referred to the response to comment #2-12. Regarding extending the 2002 limits to 2004, dropping the 2006 limits, and extending the SCM adoption date to June 2000, the commenter is referred to the responses to comments #2-1 and #3-2.

**COMMENT LETTER #17**  
**Metropolitan Water District of Southern California (MWD)**  
**July 7, 1999**

- 17-1. Comment: The ARB should more closely align the proposed SCM to match the SCAQMD's Rule 1113. The proposed SCM should include an essential public service coating (EPSC) category analogous to that in Rule 1113.

Response: The ARB staff has conducted a thorough technology assessment of the proposed limit for IM coatings. Based on our review, we have concluded that coatings that meet the proposed limit are technologically and commercially available and that such complying coatings perform as well as higher VOC IM coatings. To allow time for essential public service agencies to complete administrative processes before low VOC coatings can be used, we have delayed the proposed effective date until January 1, 2004. This extension would avoid the need to provide essential public services a higher VOC limit until they receive approval to use complying coatings. Although the time frame for compliance is not exactly the same as the SCAQMD's EPSC category, the additional time should provide the relief the commenter is seeking.

- 17-2. Comment: Compliant IM coatings that can meet the 2002 and 2006 limits may not be available.

Response: The commenter is referred to the response to comment #17-1.

- 17-3. Comment: MWD has established a rigorous performance-testing program to evaluate coatings prior to their approval for use on MWD structures. The process involves two to three years of lab testing and an additional three years of field testing. The proposed SCM limits will have a severe impact on MWD's approved coatings.

Response: The commenter is referred to the response to comment #17-1

- 17-4. Comment: To provide adequate time for the recommendation and testing of compliant low-VOC coatings, MWD recommends that an EPSC category with a limit of 340 g/l until 2006.

Response: The commenter is referred to the response to comment #17-1.

- 17-5. Comment: Once the proposed SCM IM limits go into effect, MWD will not be able to patch and repair previously painted structures with high VOC paint. As a result, MWD may have to strip the structure and repaint, resulting in higher VOC emissions.

Response: The commenter is referred to the response to comment #17-1. The delayed proposed effective date will apply to all IM uses, including patch and repair.



17-6. Comment: The proposed EPSC category and modified VOC content limit would help alleviate this concern.

Response: The commenter is referred to the response to comment #17-1.

17-7. Comment: Attachment 3 – Architectural Coatings - % reduction in coatings at 2002 and 2006 limits.

Response: Comment noted.

17-8. Comment: Attachment 3 – Immersion Coatings - % reduction in coatings at 2002 and 2006 limits.

Response: Comment noted.

**COMMENT LETTER #18**  
**State of California, Department of Transportation (Caltrans)**  
**June 22, 1999**

- 18-1. Comment: 90 percent of coatings used by Caltrans meet the proposed SCM IM 2002 limit. However, Caltrans still needs higher VOC coatings for some applications. There are no suitable replacement coatings for the necessary higher VOC coatings.

Response: The commenter is referred to the response to comment #17-1.

- 18-2. Comment: The 2002 limit of 250 g/l should be extended to 2005, and the 2006 limit of 100 g/l should be extended to 2008.

Response: The commenter is referred to the response to comment #17-1.

- 18-3. Comment: Alternatively, if dates cannot be delayed, the proposed SCM should include an ESPC category analogous to SCAQMD's Rule 1113.

Response: The commenter is referred to the response to comment #17-1.

- 18-4. Comment: Caltrans could comply with the 250 g/l 2002 IM limit today if end-user averaging could be utilized.

Response: An optional averaging provision available to manufacturers of architectural coatings may be added to the SCM. However, averaging for end-users would not be enforceable, and probably would not be approvable by the U.S. EPA as a State Implementation Plan revision.

**COMMENT LETTER #19**  
**County Sanitation Districts of Los Angeles County (LACSD)**  
**July 22, 1999**

- 19-1. Comment: Coatings that perform well at other industrial facilities may not perform at wastewater facilities due to the unique, severely corrosive conditions that can exist.

Response: The commenter is referred to the response to comment #5-1.

- 19-2. Comment: If low and zero-VOC IM coatings perform satisfactorily in the lab and the field, LACSD will incorporate into its coating specifications. If problems arise, LACSD has been assured by the SCAQMD that Rule 1113 will be revised by raising limits and including exemptions.

Response: Comment noted.

- 19-3. Comment: LACSD seeks reassurance from the ARB that SCM will also be revised based on the outcome of the SCAQMD's technology assessments.

Response: We will closely monitor SCAQMD's work in this area, and conduct our own assessment one year before the 250 g/l limit goes into effect in 2004.

- 19-4. Comment: This provision is included as footnote c to Table 1 of the proposed SCM and should be included in the final SCM.

Response: We will recommend that the provision be included in the Board Resolution for the SCM if approved.

**COMMENT LETTER #20**  
**Multi-Agency**  
**Metropolitan Water District of Southern California (MWD)**  
**California Department of Water Resources (DWR)**  
**State of California, Department of Transportation (Caltrans)**  
**Los Angeles Department of Water and Power (LADWP)**  
**July 21, 1999**

20-1. Comment: The ARB should more closely align the proposed SCM to match the SCAQMD's Rule 1113. The proposed SCM should include an essential public service coating (EPSC) category analogous to Rule 1113.

Response: The commenter is referred to the response to comment #17-1.

20-2. Comment: Concerned with the availability of compliant IM coatings that can meet the 2002 and 2006 limits.

Response: The commenter is referred to the response to comment #17-1.

20-3. Comment: The agencies have established a rigorous performance-testing program to evaluate coatings prior to their approval for use on their structures. The process involves two to three years of lab testing and an additional three years of field testing. The proposed SCM limits will have a severe impact on the agencies' approved coatings.

Response: The commenter is referred to the response to comment #17-1.

20-4. Comment: To provide adequate time for the recommendation and testing of compliant low-VOC coatings, the agencies recommend an EPSC category with a limit of 340 g/l until 2006.

Response: The commenter is referred to the response to comment #17-1.

20-5. Comment: Once the proposed SCM IM limits go into effect, the agencies will not be able to patch and repair previously painted structures with high VOC paint. As a result, may have to strip the structure and repaint resulting in higher VOC emissions.

Response: The commenter is referred to the response to comment #17-5.

20-6. Comment: The proposed EPSC category and modified VOC content limit would help alleviate this concern.

Response: The commenter is referred to the response to comment #17-1.

20-7. Comment: Attachment 2 – Critical Application Usage Information – structural steel bridges.

Response: Comment noted.

- 20-8. Comment: Attachment 2 – Critical Application Usage Information – structural steel bridges.

Response: Comment noted.

- 20-9. Comment: Attachment 2 – Critical Application Usage Information – exterior structures holding, conveying potable water.

Response: Comment noted.

- 20-10. Comment: Attachment 2 – Critical Application Usage Information – structures that come into contact with potable water.

Response: Comment noted.

- 20-11. Comment: Attachment 2 – Critical Application Usage Information - structures that come into contact with chemicals designed to treat potable water.

Response: Comment noted.

- 20-12. Comment: Attachment 2 – Critical Application Usage Information – electric power conveyance systems.

Response: Comment noted.

- 20-13. Comment: Attachment 2 – Critical Application Usage Information – generating stations' equipment.

Response: Comment noted.

**COMMENT LETTER #21**  
**Department of Water Resources**  
**July 13, 1999**

21-1. Comment: The SCM should incorporate an essential public services category, as in SCAQMD Rule 1113.

Response: The commenter is referred to the response to comment #17-1.

**COMMENT LETTER #22**  
**Southern California Association of Governments**  
**June 25, 1999**

- 22-1. Comment: The Notice of Preparation of the Draft Program EIR for the SCM is not regionally significant per Areawide Clearinghouse criteria. Therefore, the project does not warrant clearinghouse comments at this time. A description of the project will be published in the July 1, 1999, Intergovernmental Review Report for public review and comment.

Response. Comment noted.

## **Public Workshop Comments**

The following summarizes the CEQA-related comments received by the ARB at public workshops for the proposed SCM. The comments have been grouped by environmental topic. Responses to each comment are also included.

**June 3, 1999**

### **Water Resources Impacts**

Comment #1: The use of waterborne technology to comply with the proposed SCM will result in coating equipment being cleaned up with water. The water use could result in water demand impacts. The disposal of waste material could also result in water quality impacts.

Response #1: The Draft Program EIR comprehensively analyzes the potential water demand impacts associated with the implementation of the proposed SCM. The analysis reveals that water demand impacts are negligible and insignificant. The commenter is referred to the Water Demand section of Chapter IV in the Draft Program EIR and the response to comment #2-14.

Additionally, the Draft Program EIR comprehensively analyzes the potential water quality impacts associated with the implementation of the proposed SCM. The analysis reveals that water quality impacts are negligible and insignificant. The commenter is referred to the Water Quality section of Chapter IV in the Draft Program EIR and the response to comment #2-15.

**July 1, 1999 (CEQA Scoping Meeting)**

### **Schedule of the Draft Program EIR**

Comment #1: The proposed SCM is moving too fast. The Draft Program EIR will not adequately address the environmental impacts associated with the proposed SCM based on the current schedule.

Response #1: The commenter is referred to the response to comment #2-1.

### **Reactivity**

Comment #1: The Draft Program EIR must analyze the reactivity characteristics of each airshed to determine if the proposed SCM will result in negative reactivity problems.

Response #1: The commenter is referred to the responses to comments #1-1 through #1-8, the Air Quality existing setting section of Chapter III, and the More Reactivity section of Chapter IV in the Draft Program EIR.



## **Alternatives**

Comment #1: The Draft Program EIR should consider an alternative where the VOC content and compliance deadlines of coatings vary.

Response #1: The Extended Compliance Deadline Alternative has been included as one of the feasible alternatives to the SCM, and is analyzed in Chapter V of the Draft Program EIR. Also, the current version of the proposed SCM incorporates many of industry's recommendations regarding varying VOC content limits, is also discussed in Chapter V of the Draft Program EIR.

**September 8, 1999**

## **Increase in VOCs as a Result of the Use of Low-VOC Compliant Coatings**

Comment #1: The 250 g/l VOC content limit for IM coatings is too low and will lead to frequent recoating.

Response #1: The commenter is referred to the response to comment #16-1 and the More Frequent Recoating section of Chapter IV in the Draft Program EIR.

## **Hazards Impacts**

Comment #1: The use of acetone as a replacement solvent will increase hazards impacts (*e.g.*, flammability issues).

Response #1: The potential hazards impacts associated with the use of acetone as a replacement solvent have been extensively analyzed in the Hazards section of Chapter IV in the Draft Program EIR.